WM-GX550/GX552

SERVICE MANUAL

Ver 1.1 2001. 11

With SUPPLEMENT-1
(9-923-180-81)

Photo : WM-GX552

US Model
WM-GX552

AEP Model
WM-GX550

E Model
WM-GX550/GX552

Tourist Model
WM-GX552

Model Name Using Similar Machanism	NEW
Tape Transport Mechanism Type	MF-WMGX654-125

SPECIFICATIONS

Radio section

Frequency range (For "Eur" indication)
FM: 87.5–108 MHz
AM: 531–1,602 kHz

Tape section

Frequency response (Dolby NR off)
Playback: 20–18,000 Hz
Recording/playback: 100–8,000 Hz
Output
Headphones (🎧REMOTE jack)
Load impedance 8–300 ohms
Power output
4 mW + 4 mW (16 ohms)

General

Power requirements
1.5 V
One R6 (size AA) battery
Dimensions (w/h/d)
Approx. 109 x 78.6 x 29.4 mm (4⅜ x 3⅛ x 1⅛ inches) incl. projecting parts and controls

Mass
Approx. 150 g
GX552: Approx. 235 g (8.3 oz) incl. battery, earphones with remote control and cassette
GX550: Approx. 235 g (8.3 oz) incl. battery, earphones and cassette
Supplied accessories
Stereo earphones with remote control (1) (GX552 only)
Stereo earphones (1) (GX550 only)
Clip (1) (GX552 only)
Battery charger (1) (for the GX552 tourist model only)
AC plug adaptor (1) (for the GX552 tourist model only)
Rechargeable battery (NC-AA, 1.2 V, 600 mAh, Ni-Cd) (1) (for the GX552 tourist model only)
Battery R6P (SR) (1) (for the GX552 tourist model only)
Carrying pouch (1)
Stereo microphone (1)
Microphone stand (1)

Design and specifications are subject to change without notice.

RADIO CASSETTE CODER

9-923-180-13
2001K0200-1
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Personal Audio Company
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Flexible Circuit Board Repairing

- Keep the temperature of the soldering iron around 270°C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

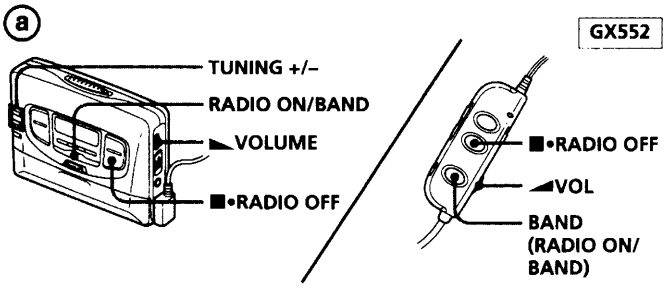
Notes on chip component replacement

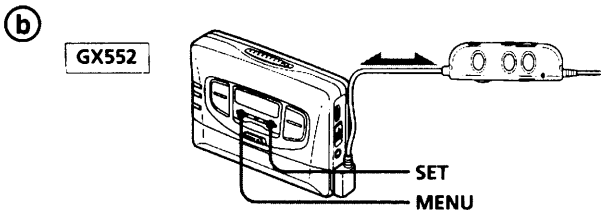
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

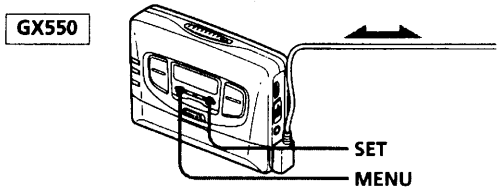
SECTION 1
GENERAL

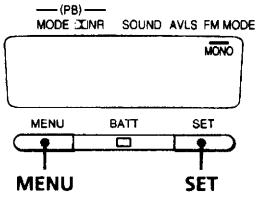
This section is extracted from instruction manual.

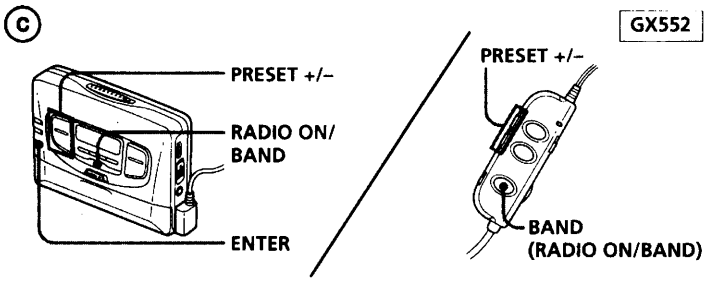
LOCATION AND FUNCTION OF CONTROLS

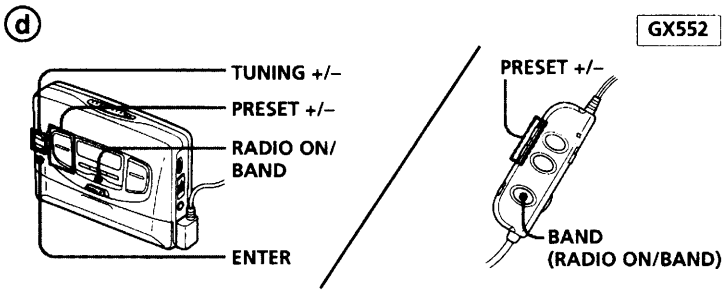






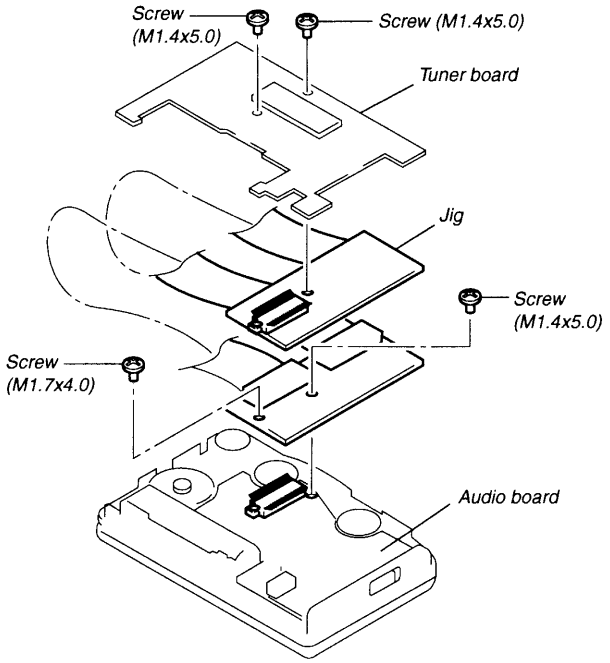






SECTION 2
SERVICE NOTE

- Regarding the method of adjustment and voltage check, perform sections 3-1 and 3-2 of the DISASSEMBLY, and attach the JIG (J-2503-005-A) to the AUDIO board as shown below.



SERVICE MODE

Mode which enables the mechanism to be operated with the AUDIO board opened.

This set detects the rotation of GEAR (S) using the PH701 (photo reflector). The PH701 is mounted on the AUDIO board, and therefore the GEAR cannot be detected with the AUDIO board removed. As a result, the motor cannot be controlled, causing malfunction. Further, the S702 (FWD/REV switch) is also mounted on the AUDIO board, and with the board removed, the mechanism position cannot be detected and the operation is not changed over. Therefore, when the voltage check is executed with the AUDIO board removed, follow the procedure provided below.

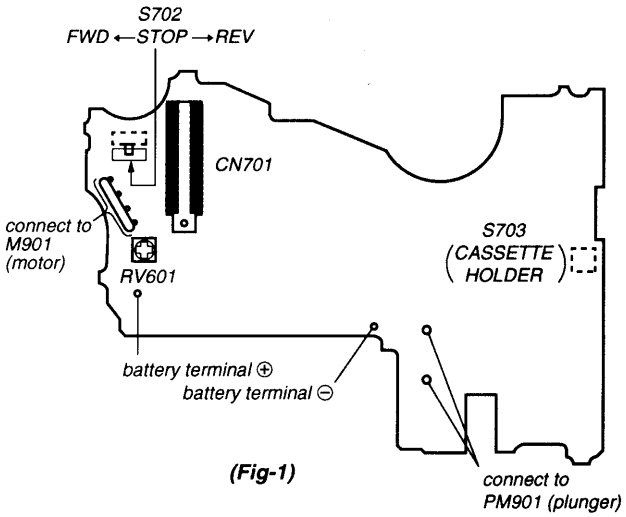
Note : Do not move the S702 switch position when removing the AUDIO board.
If it is moved, the set will not be changed over to the selected mode. In this case, reconnect the AUDIO board to the set and retry the work from the beginning.

1. Setting
1) Refer to "3. DISASSEMBLY", and remove the cabinet and open the TUNER and AUDIO board.
2) Connect the AUDIO board to the M901 (motor) and PM901 (plunger) using a jumper wire. (See Fig- 1)
3) Set the TUNER board on to the AUDIO board and secure it with screw. (S-ee Fig- 2)
4) Short the ATS terminals (S12 – 2).
5) Press and fixed the S703 (CASSETTE HOLDER).
6) Supply 1.5V to the battery terminals ⊕ and ⊖ using a stabilized power supply.

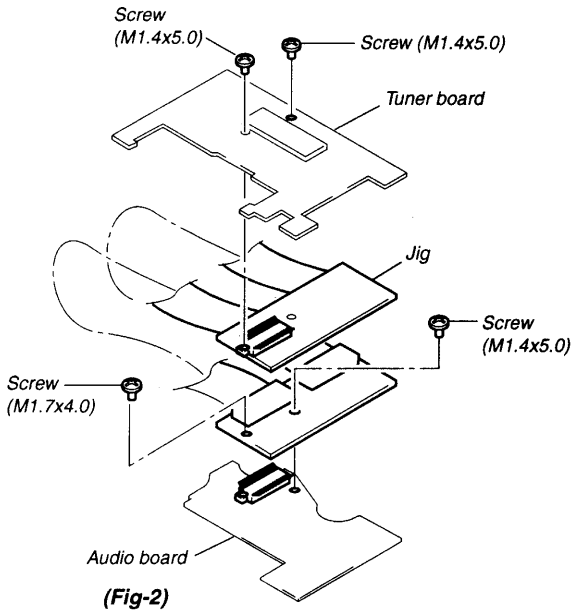
2. FF, REW Modes
1) Input a square wave to the IC1 ㊴ pin (PHOTO IN) and TP44 (GND). (See Fig-3)
2) Press the S1 (STOP) for selecting STOP mode.
3) Press the S3 (FF) or S4 (REW).

3. PLAY Mode
1) Input a square wave to the IC1 ㊴ pin (PHOTO IN) and TP44 (GND). (See Fig-3)
2) Press the S1 (STOP) for selecting STOP mode.
3) Press the S2 (PLAY). (Each time the switch is pressed, the mode is chaged over.)

[AUDIO board] (Side B)

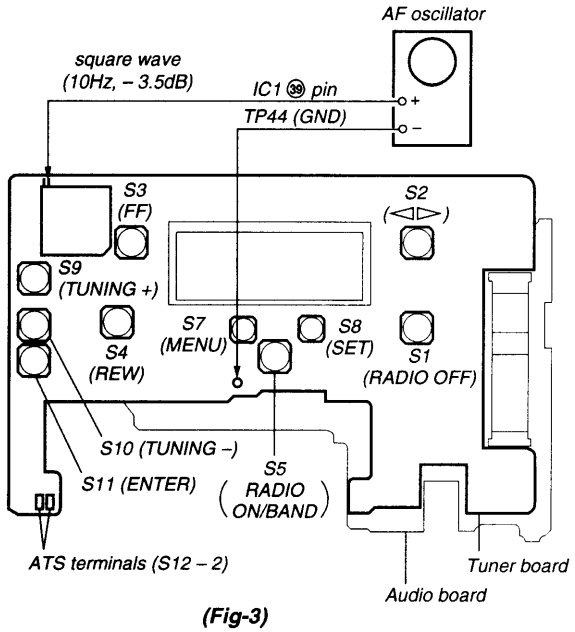


(Fig-1)



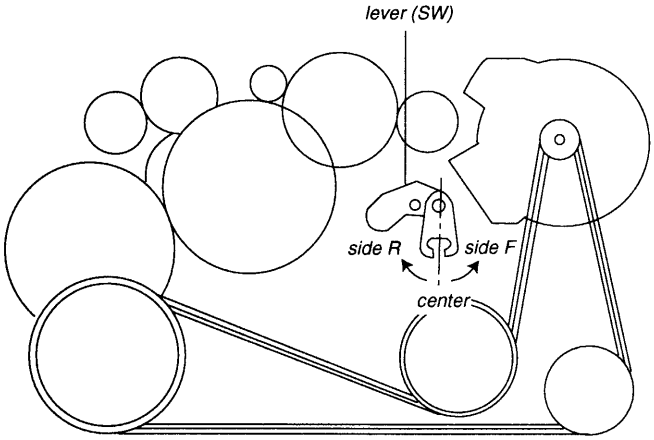
(Fig-2)

[TUNER board] (Conductor side)

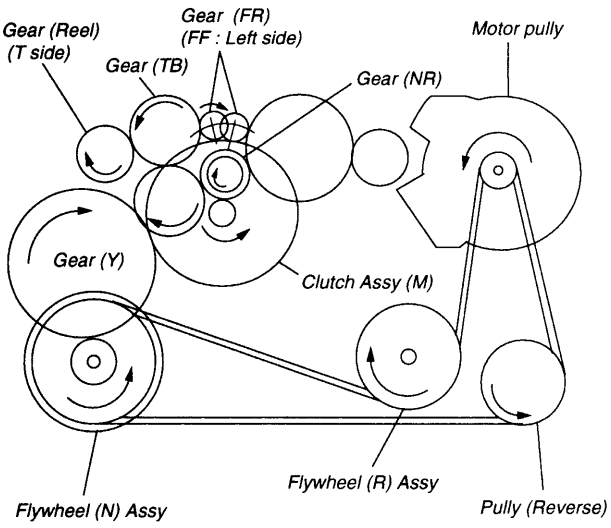


(Fig-3)

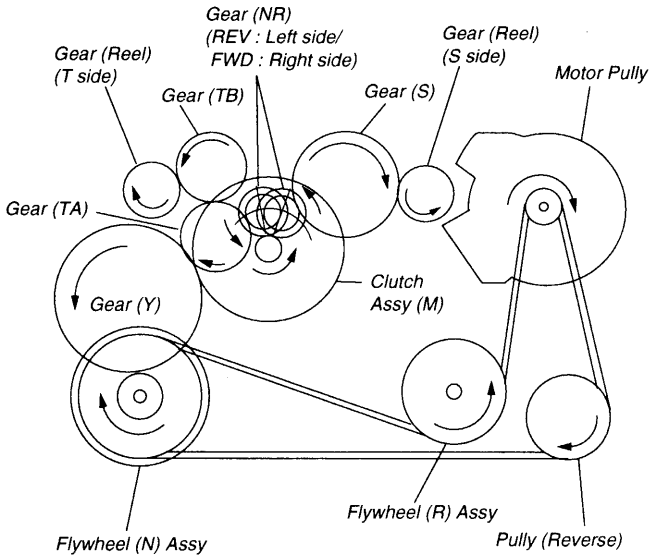
LEVER (SW)



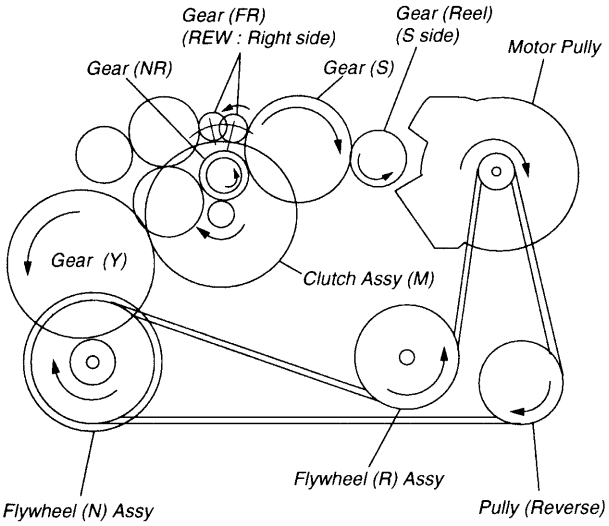
ortation system during FF.



Rortation system during PLAY.



Rortation system duirng REW.



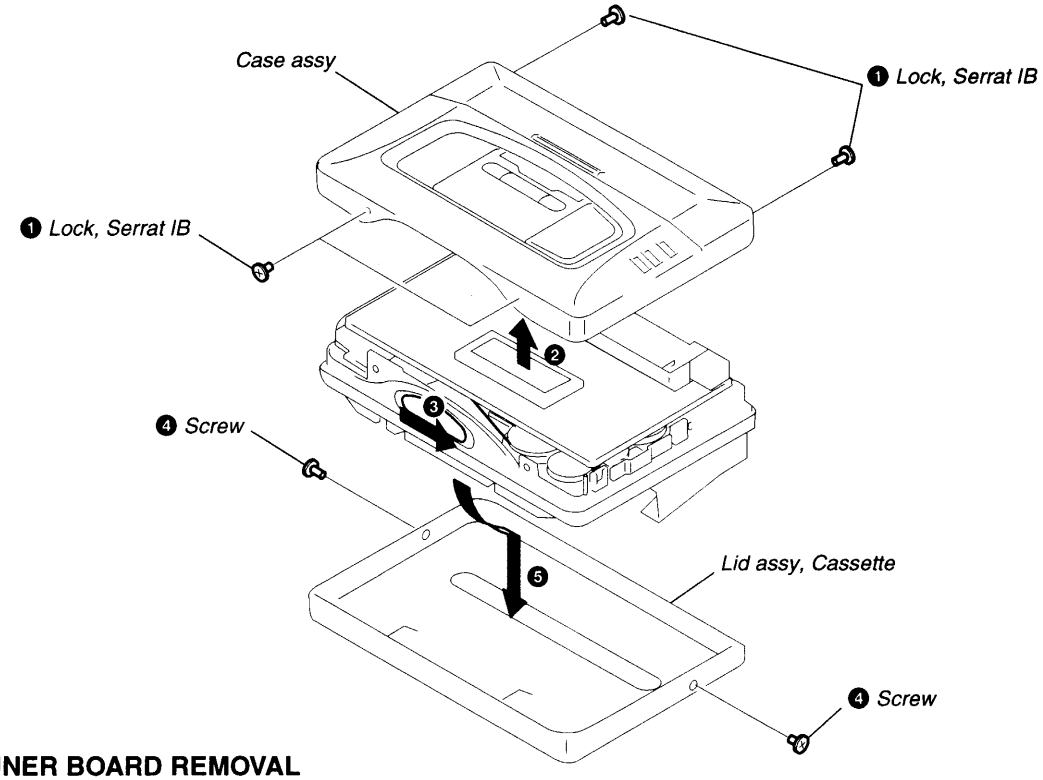
SECTION 3
DISASSEMBLY

● The equipment can be removed using the following procedure.

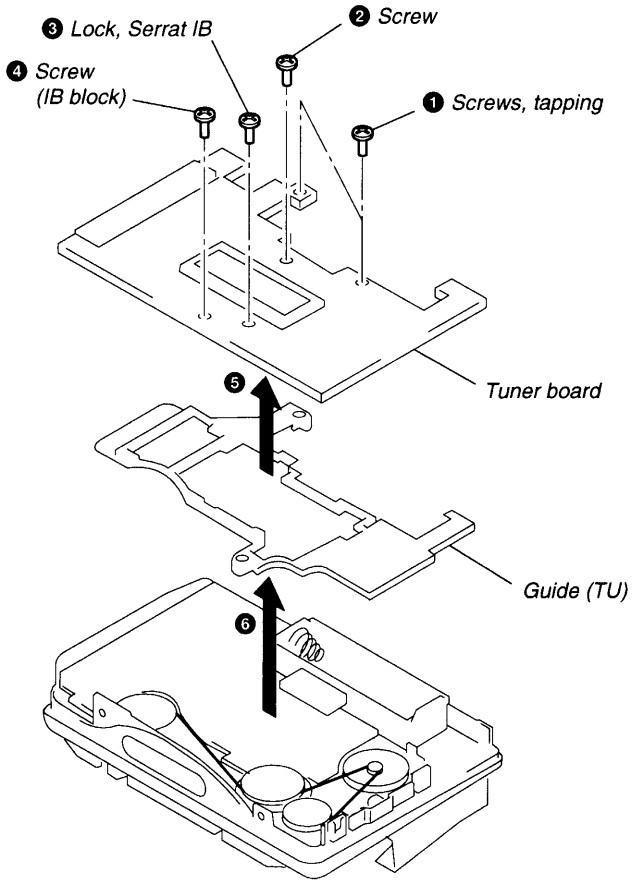
Set → Case assy → Tuner board → Audio board → Mechanism deck
Set → Lid assy, Cassette

Note : Follow the disassembly procedure in the numerical order given.

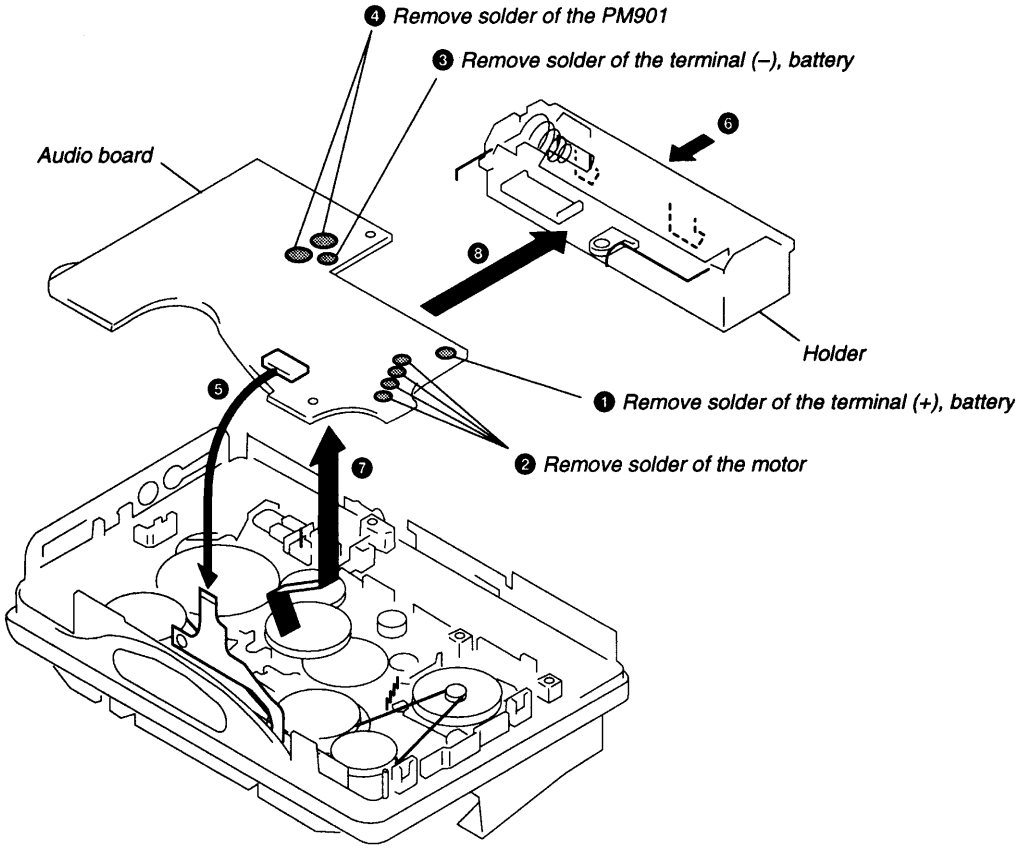
3-1. CASE ASSY, LID ASSY, CASSETTE REMOVAL



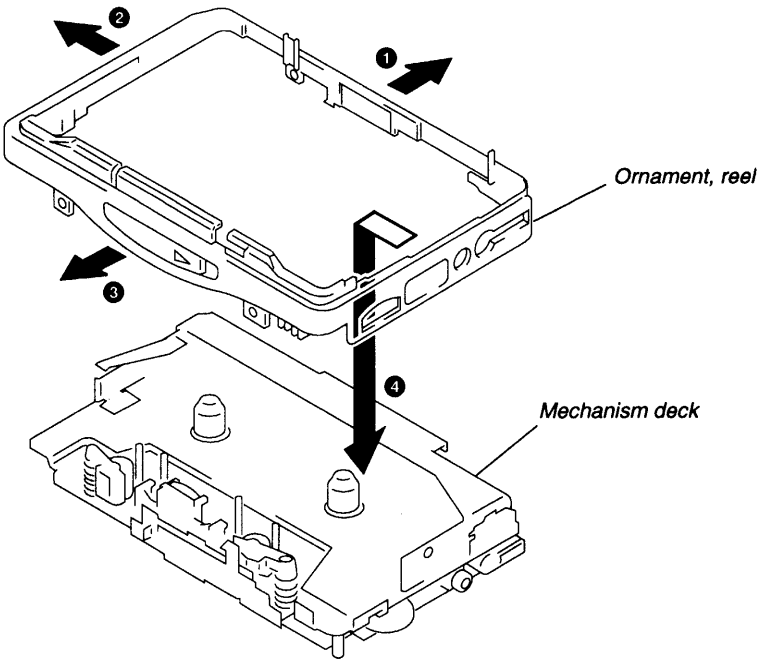
3-2. TUNER BOARD REMOVAL



3-3. AUDIO BOARD REMOVAL



3-4. MECHANISM DECK REMOVAL



SECTION 4
ADJUSTMENTS

4-1. MECHANICAL ADJUSTMENTS

PRECAUTION

1. Before adjusting, clean the following parts with a piece of cotton moistened with alcohol.
   playback head pinch roller
   rubber belt capstan
2. Demagnetize the playback head using a head demagnetizer.
3. Do not use a magnetized screwdriver for adjustments.
4. After adjusting, apply screw-locking compound to the adjusted parts.
5. Unless specified otherwise, use a specified voltage (1.3V) to perform the adjustments.

Torque Measurement

Torque	Torque Meter	Meter Reading
FWD	CQ-102C	18 to 33 g • cm (0.25 to 0.41 oz• inch)
FWD back tension		0.7 to 2.0 g • cm (0.001 to 0.027 oz• inch)
REV	CQ-102RC	18 to 30 g • cm (0.25 to 0.41 oz• inch)
REV back tension		0.7 to 2.0 g • cm (0.01 to 0.027 oz• inch)
FF	CQ-201B	more than 35g • cm (more than 0.49 oz• inch)
REV		

4-2. ELECTRICAL ADJUSTMENTS

PRECAUTION

1. Specified voltage : 1.3V.
2. Mode setting
   DOLBY NR : OFF
   MODE : ⇆
   MEGA BASS switch : NORM
   AVLS : OFF

CASSETTE SECTION

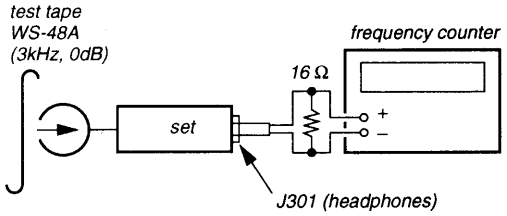
Test Tape

Type	Signal	Used for
WS-48A	3kHz, 0dB	Tape Speed Adjustment

0dB = 0.775V

Tape Speed Adjustment

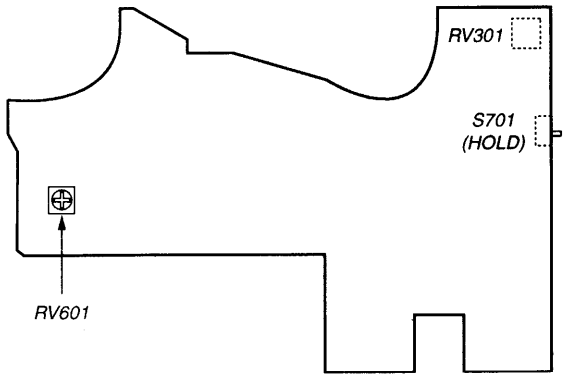
Procedure :



1. Play back WS-48A (tape center part) in the FWD state and adjust RV601 so that the frequency counter reading becomes 3000 ± 15Hz.
2. Play back WS-48A (tape center) in the REV state.
   Check that the frequency counter reading is within 2% of the reading of step 1.

Adjustment Point :

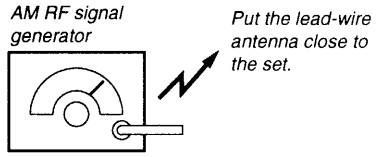
[MAIN BOARD] – Side B –



TUNER SECTION

AM Section

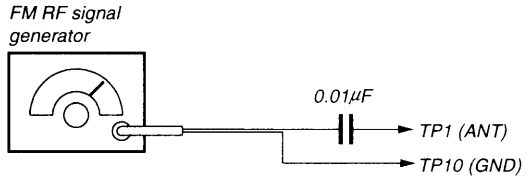
BAND : AM



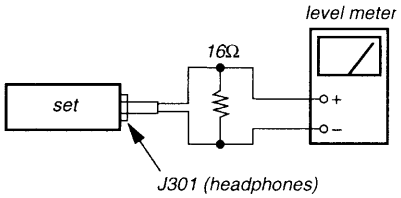
30% amplitude modulation by 400Hz signal.
Output level : as low as possible

FM Section

BAND : FM



22.5kHz frequency deviation by 400Hz signal.
Output level : as low as possible



- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

AM IF ALIGNMENT	
Adjust for a maximum reading on level meter.	
T2	450kHz

AM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment part	Frequency display	Reading on Digital Voltmeter
T1	531 kHz	1.4 ± 0.1 V
confirmation	1,710 kHz	8.5 ± 0.6 V

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on level meter.	
L4	621kHz
CT1	1,395kHz

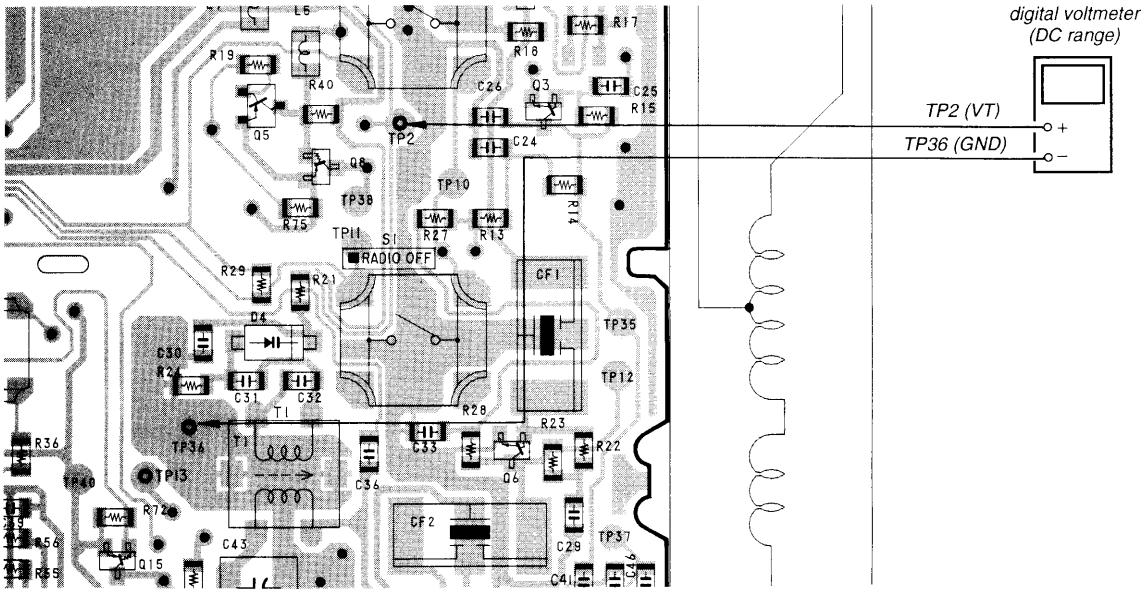
FM IF ALIGNMENT	
Adjust for a maximum reading on level meter.	
L3	10.7MHz

FM FREQUENCY COVERAGE ADJUSTMENT		
Adjustment part	Frequency display	Reading on Digital Voltmeter
L2	76MHz	1.0 ± 0.1 V
confirmation	108MHz	8.8 ± 0.6 V

AM Frequency Coverage Adjustment

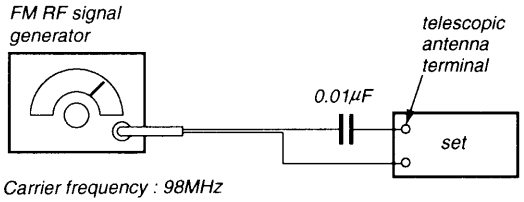
Setting :

[TUNER BOARD] (Conductor side)



FM VCO Adjustment

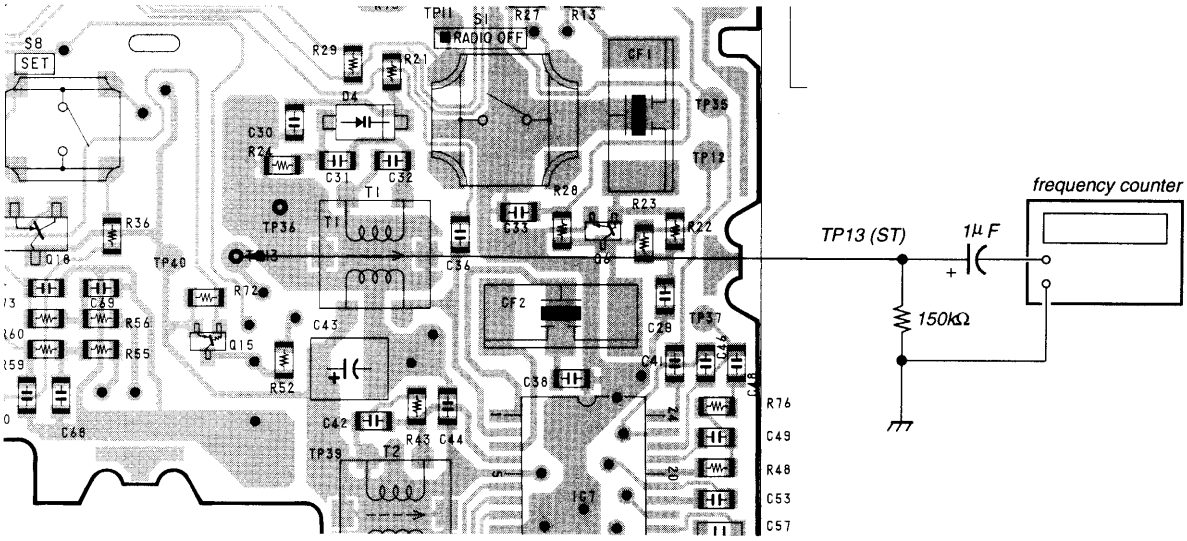
Procedure :



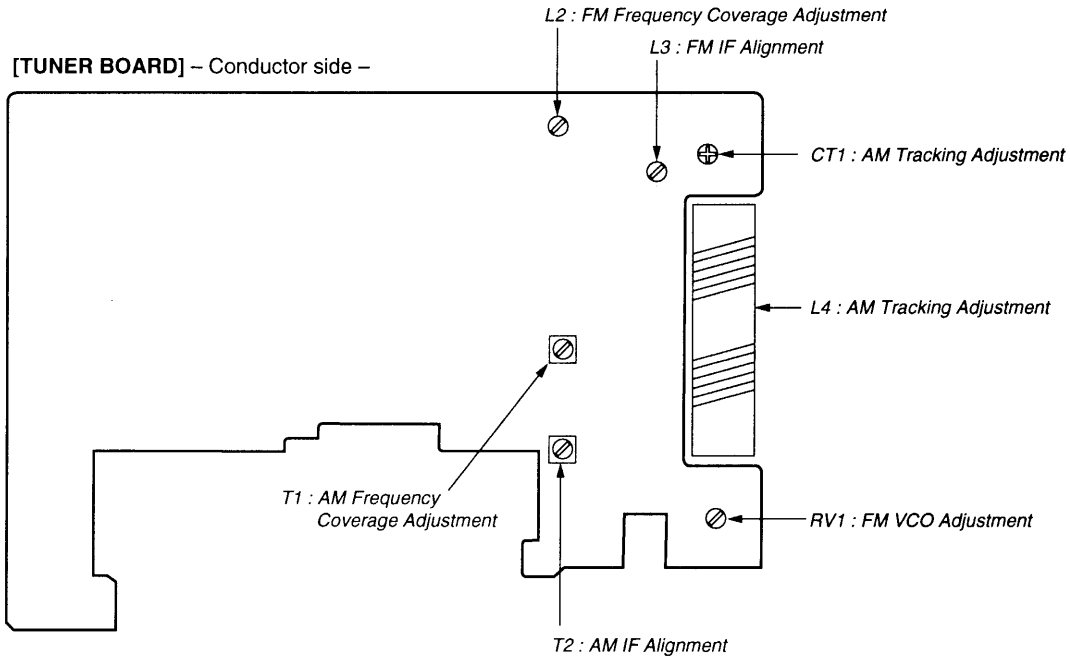
Carrier frequency : 98MHz
Modulation : No modulation
Output level : 0.1V (100dBμV)

1. Connect the frequency counter as shown the figure.
2. Turn the set to 98MHz.
3. Adjust RV1 for 19kHz±50Hz reading frequency counter.

[TUNER BOARD] (Conductor side)



Adjustment Location :


[TUNER BOARD] – Conductor side –
L2 : FM Frequency Coverage Adjustment
L3 : FM IF Alignment
CT1 : AM Tracking Adjustment
L4 : AM Tracking Adjustment
T1 : AM Frequency Coverage Adjustment
RV1 : FM VCO Adjustment
T2 : AM IF Alignment

SECTION 5
EXPLANATION OF IC TERMINALS

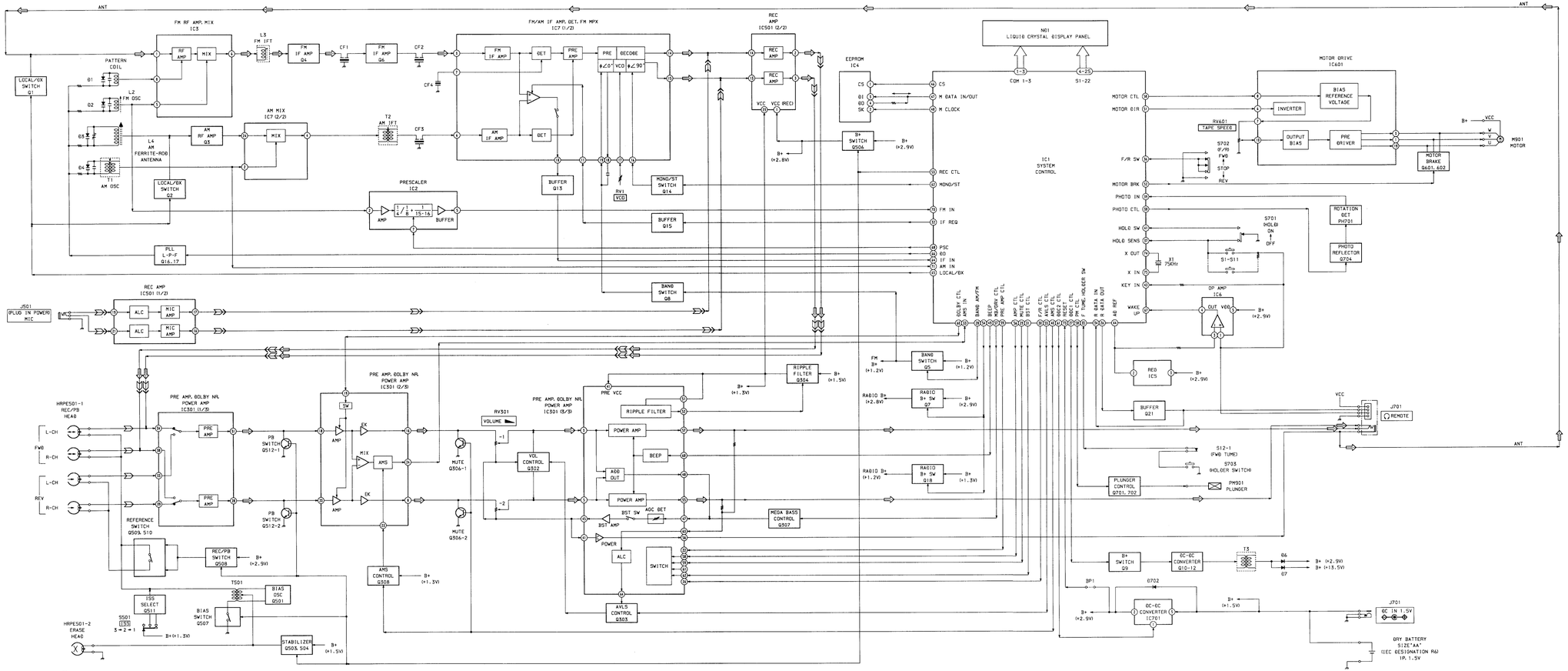
IC1 TC9326F-006 (SYSTEM CONTROL)

Pin No.	Pin name	I/O	Description
1 – 3	COM1 – 3	O	LCD common drive output.
4 – 25	S1 – 22	O	LCD segment drive output.
26	R DATA OUT	O	Communication to the remote commander.
27	DDC1 CTL	O	ON/OFF control output of DC-DC converter and amplifier. L : ON
28	BAND AM/FM	O	AM/FM band selector. L : FM, H : AM
29	MUTE CTL	O	Audio mute control output.
30	F/R CTL	O	FWD/REV control output.
31	BST CTL	O	Tone control output.
32	IF REQ	O	IF request output.
33	AMS IN	I	Recording sound detection input.
34	R DATA IN	I	Data input for receiver.
35	F TUME, HOLDER SW	I	FWD Tume/Holder key input detection.
36	F/R SW	I	FWD/REV mode key input.
37	HOLD SENS	I	Hold key input.
38	PHOTO CTL	O	Output for rotation detect intermittent.
39	PHOTO IN	I	Rotation detect signal input.
40	AMS CTL	O	AMS control output.
41	HOLD SW	I	Hold switch signal input.
42	BATT DET	I	Battery detect terminal.
43	KEY IN	I	Key input terminal.
44	AD REF (VCC)	–	A/D reference voltage terminal.
45	LED CTL	O	LED ON/OFF control. H : ON
46	CS	O	Chip enable output to EEPROM.
47	M DATA I/O	I/O	Serial data input/output to EEPROM.
48	M CLOCK	O	Serial clock output to EEPROM.
49	BEEP	O	Beep signal output.
50	MOTOR CTL	O	Motor control output.
51	MOTOR DIR	O	Motor rotating direction control output.
52	MOTOR BRK	O	Motor brake control output.
53	REC CTL	O	REC control output.
54	RADIO CTL	O	Radio ON/OFF control output.
55	AVLS CTL	O	AVLS ON/OFF control output
56	AMP CTL	O	Audio amplifier control output
57	MB/GRV CTL	O	Tone control output.
58	PM CTL	O	Plunger ON/OFF control.
59	PRE AMP CTL	O	TC/RADIO select output of preamplifier.
60	DOLBY CTL	O	Dolby ON/OFF control output.
61	DDC2 CTL	O	DC/DC voltage control output.
62	MONO/ST	O	Radio Mono/Stereo select signal output.
63	TEST	I	Test terminal (Connected to ground).
64	IF IN	I	IF signal input terminal.
65	LOCAL/DX	O	Local/DX select signal output.
66	D0	O	PLL output.
67	WAKE UP	I	Wake up input terminal.
68	PSC	O	PSC output.
69	GND	–	Ground.
70	FM IN	I	FM signal input.

Pin No.	Pin name	I/O	Description
71	AM IN	I	AM signal input.
72	VDD	–	Power supply.
73	RESET	I	System reset terminal.
74	X OUT	O	System clock oscillator (75kHz).
75	X IN	I	System clock oscillator (75kHz).
76	VXT	–	Internal power supply step-up terminal.
77	VLCD	–	Internal power supply step-up terminal.
78	C1	–	Capacitor connection terminal.
79	C2	–	Capacitor connection terminal.
80	VEE	–	Internal power supply step-up terminal.

SECTION 6
DIAGRAMS

6-1. BLOCK DIAGRAM



6-2. PRINTED WIRING BOARDS (TUNER SECTION)

• SEMICONDUCTOR LOCATION

Ref. No.	Location
D1	B-20
D2	B-19
D3	A-22
D4	D-19
D5	D-17
D6	E-13
D7	E-14
D8	E-14
D9	E-16
D10	G-13
D11	A-17
IC1	B-13
IC2	B-18
IC3	B-20
IC4	E-13
IC5	B-12
IC6	G-13
IC7	F-20
Q1	A-20
Q2	B-22
Q3	B-21
Q4	B-20
Q5	C-19
Q6	E-20
Q7	D-16
Q8	B-20
Q9	E-16
Q10	F-14
Q11	F-14
Q12	F-13
Q13	G-20
Q14	G-21
Q15	E-20
Q16	D-13
Q17	D-13
Q18	E-18
Q21	A-13

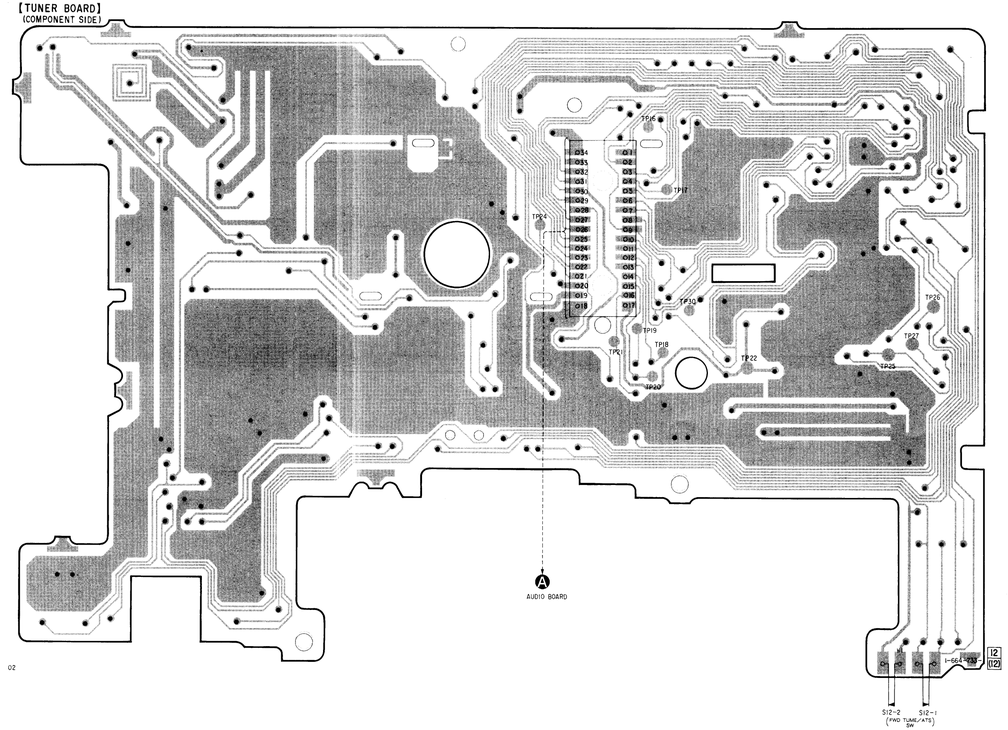
Note:

- ○— : parts extracted from the component side.
- ● : Through hole.
- ▒▒▒ : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

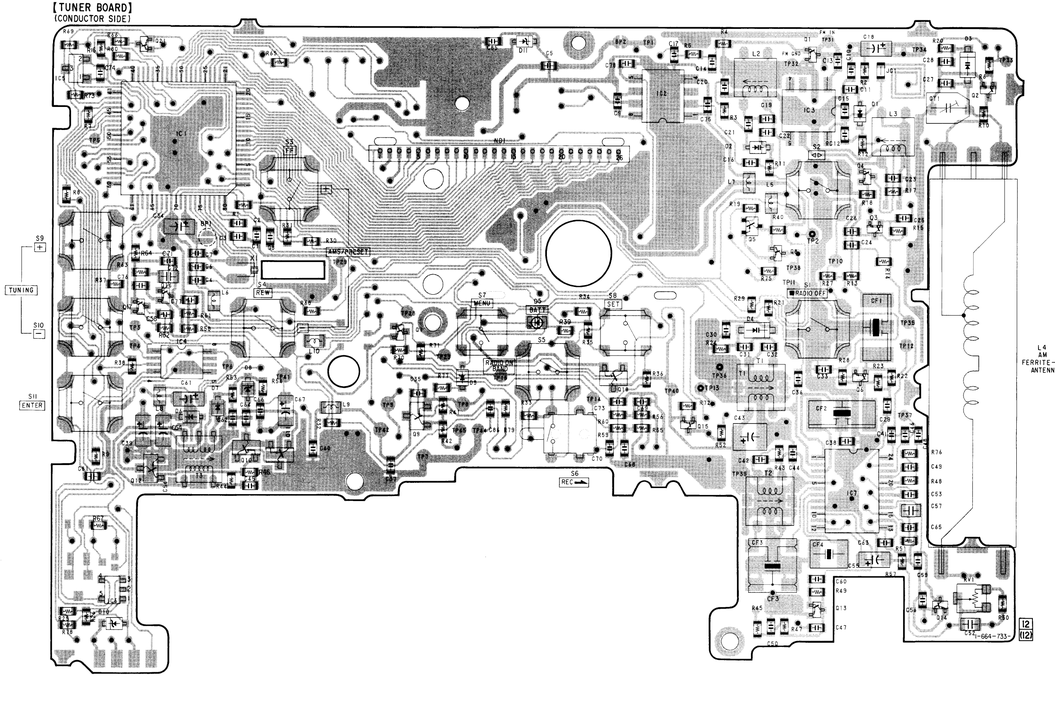
Caution :

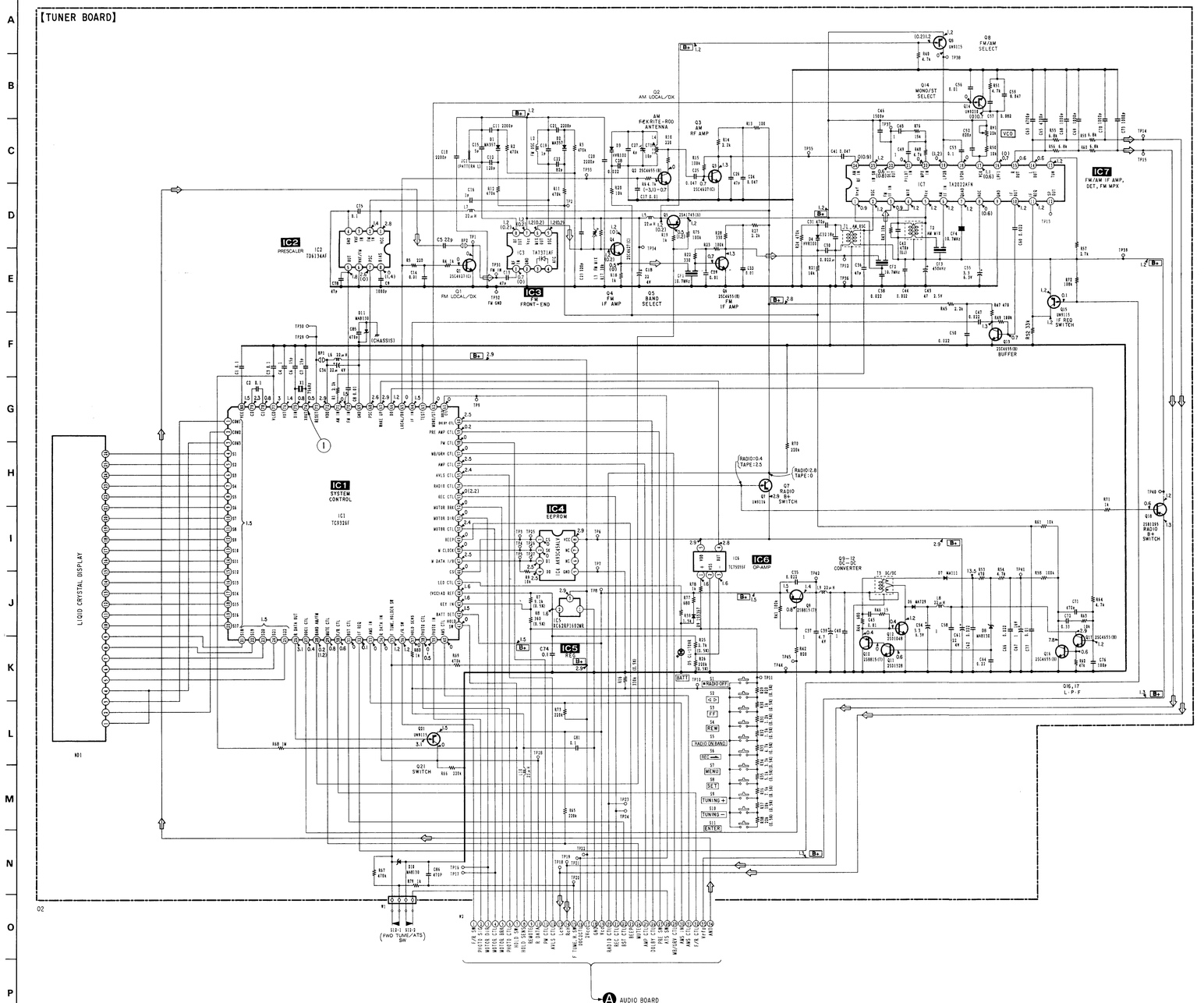
Pattern face side : (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.
Parts face side : (Component side) Parts on the parts face side seen from the parts face are indicated.

【TUNER BOARD】
(COMPONENT SIDE)



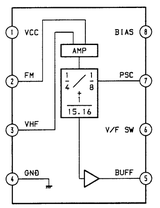
【TUNER BOARD】
(CONDUCTOR SIDE)



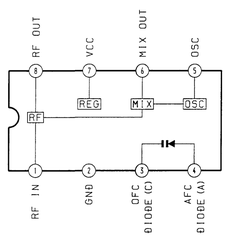


● IC BLOCK DIAGRAMS

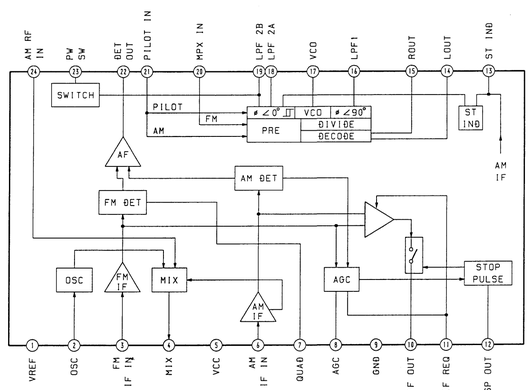
IC2 TD6134AF



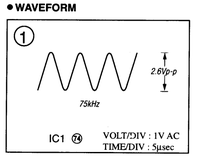
IC3 TA7371AF-EL



IC7 TA-2022AFN-EL



● WAVEFORM

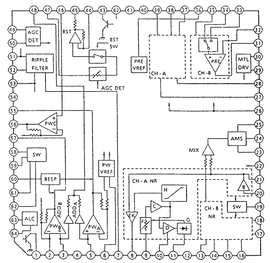


Note :

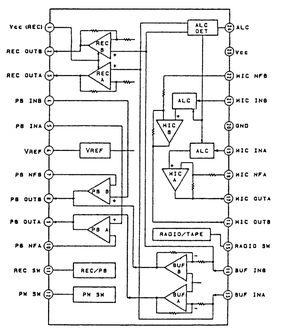
- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4W or less unless otherwise specified.
- B+ : B+ Line
- : adjustment for repair.
- Power voltage is dc 1.5V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM (RADIO), PLAY (TAPE)
  ( ) : AM (RADIO), REC (TAPE)
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope. Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.
- Signal path.
  : FM

● IC BLOCK DIAGRAMS (AUDIO SECTION)

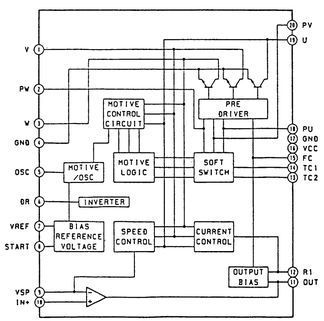
IC301 TA2072AF



IC501 TA8155FN



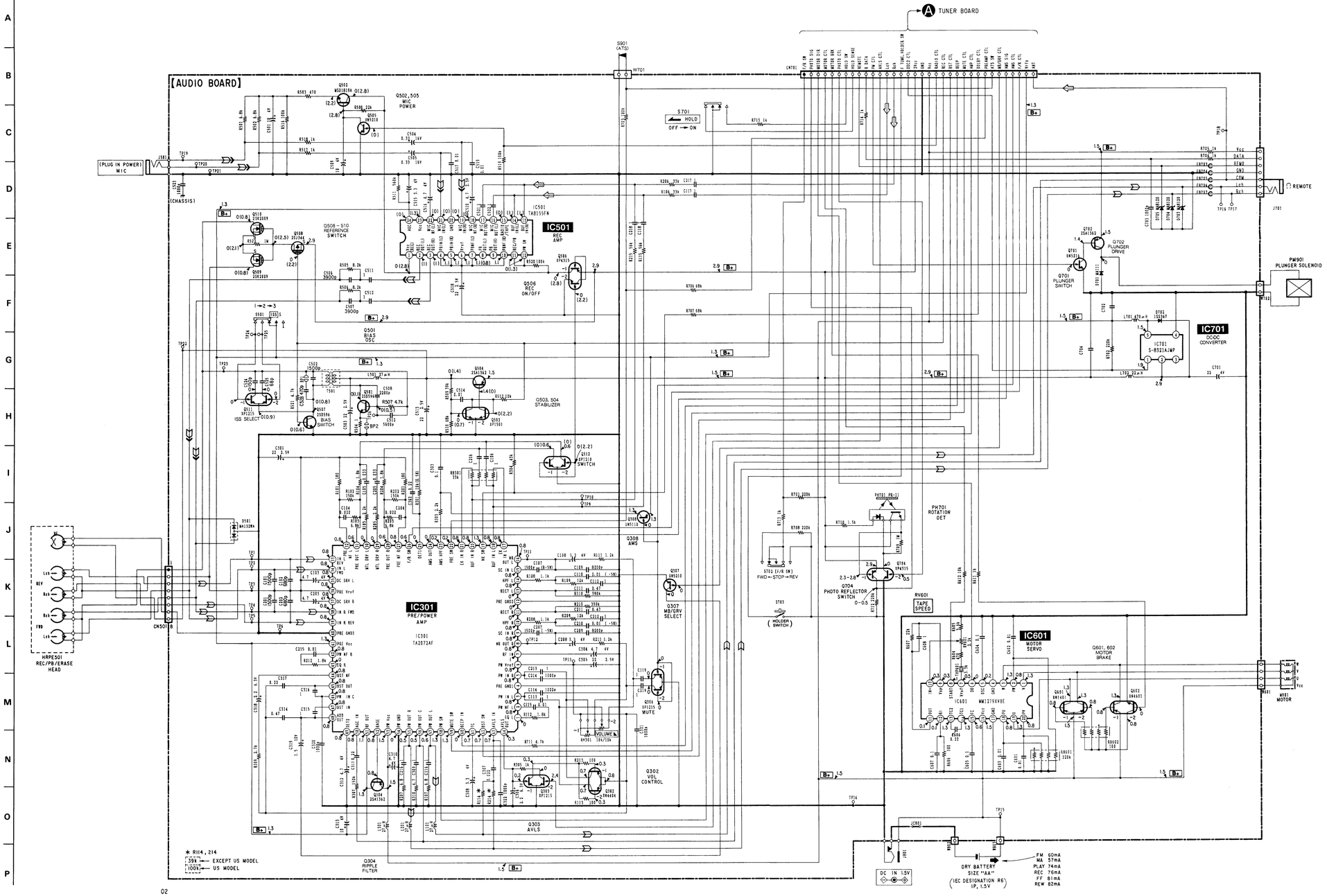
IC601 MM1279XVBE

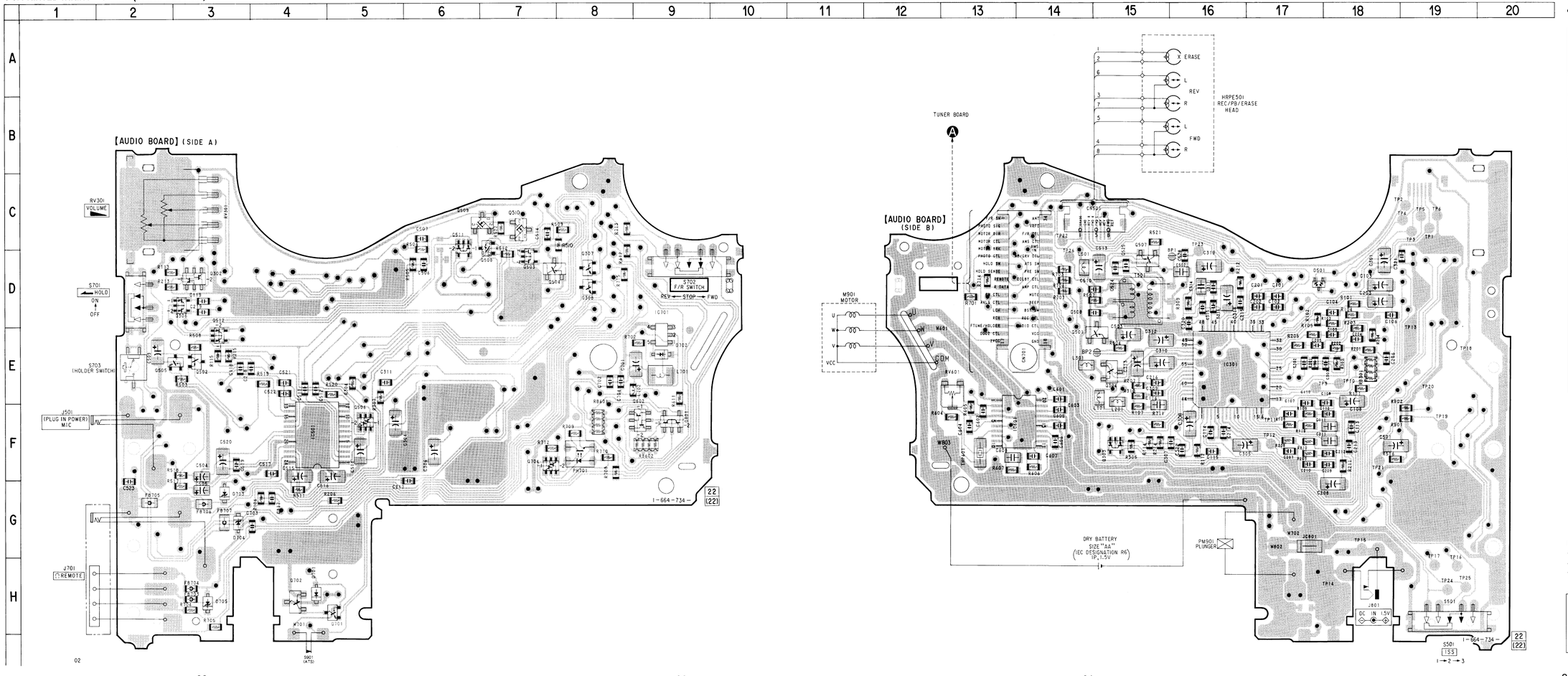


Note :

- All capacitors are in μF unless otherwise noted. pF: μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and 1/4 W or less unless otherwise specified.
- B+ : B+ Line
- : adjustment for repair.
- Power voltage is dc 1.5V and fed with regulated dc power supply from external power voltage jack.
- Voltages are dc with respect to ground under no-signal (detuned) conditions.
  no mark : FM (RADIO), PLAY (TAPE)
  ( ) : AM (RADIO), REC (TAPE)
- Voltages are taken with a VOM (Input impedance 10MΩ). Voltage variations may be noted due to normal production tolerances.
- Signal path.
  ⇨ : FM
  ⇨ : PB
  ⇨ : REC

6-4. SCHEMATIC DIAGRAM (AUDIO SECTION)





● SEMICONDUCTOR LOCATION

Ref. No.	Location
D501	D-17
D701	H-4
D702	E-9
D703	G-3
D704	G-3
D705	H-3
IC301	E-16
IC501	F-4
IC601	F-13
IC701	E-9
PH701	F-8
Q302	D-3
Q303	F-15
Q304	E-15
Q306	D-3
Q307	D-8
Q308	D-8
Q501	E-15
Q502	E-3
Q503	D-7
Q504	D-7
Q505	E-3
Q506	F-5
Q507	D-15
Q508	D-7
Q509	C-6
Q510	C-7
Q511	D-6
Q512	E-3
Q601	F-9
Q602	F-9
Q701	H-5
Q702	H-4
Q704	F-7

Note:

- ○— : parts extracted from the component side.
- ● : Through hole.
- : Pattern from the side which enables seeing. (The other layers' patterns are not indicated)

Caution :

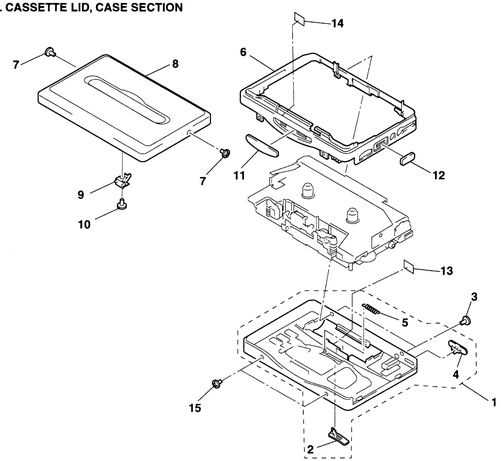
Pattern face side : (Conductor Side) Parts on the pattern face side seen from the pattern face are indicated.

Parts face side : (Component side) Parts on the parts face side seen from the parts face are indicated.

SECTION 7
EXPLODED VIEWS

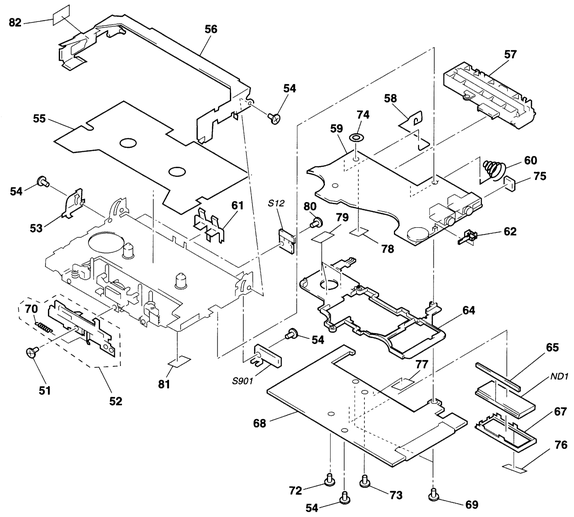
NOTE :
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.
- Abbreviation
  JED : Tourist
  IT : Italian
  EA : Saudi Arabia

7-1. CASSETTE LID, CASE SECTION



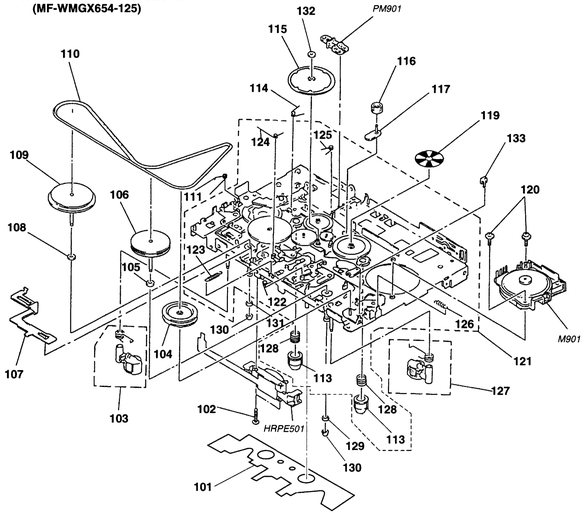
Ref. No.	Part No.	Description	Remark
1	X-3373-586-1	CASE (GB) ASSY (GX550)	
1	X-3373-587-1	CASE (GH) ASSY (GX552)	
2	3-012-467-01	KNOB (REC)	
3	3-010-838-24	LOCK, SERRAT IB (GX552)	
3	3-010-838-25	LOCK, SERRAT IB (GX550)	
4	3-012-468-01	KNOB (ISS) (GX550)	
4	3-012-468-11	KNOB (ISS) (GX552)	
5	3-012-469-01	SPRING, TENSION	
6	3-009-676-21	ORNAMENT, REEL (GX550)	
6	3-009-676-31	ORNAMENT, REEL (GX552)	
7	3-704-197-11	LOCK, SERRAT IB (GX552)	
7	3-704-197-13	LOCK, SERRAT IB (GX550)	
8	X-3373-576-1	LID (GX-H) ASSY, CASSETTE (GX552)	
8	X-3373-577-1	LID (GX-B) ASSY, CASSETTE (GX550)	
9	3-012-427-01	LOCKER, OPEN	
10	3-318-382-61	SCREW (1.7X2.5), TAPPING	
11	3-009-677-11	KNOB (OPEN)	
12	3-930-794-11	KNOB (HOLD) (GX550)	
12	3-930-794-21	KNOB (HOLD) (GX552)	
13	3-018-079-01	SHEET (ROCK) (GX550)	
13	3-018-079-11	SHEET (ROCK) (GX552)	
14	3-018-079-01	SHEET (ROCK)	
15	3-010-838-37	LOCK, SERRAT IB (GX552)	
15	3-010-838-38	LOCK, SERRAT IB (GX550)	

7-2. AUDIO BOARD, TUNER BOARD SECTION



Ref. No.	Part No.	Description	Remark
51	3-704-197-11	LOCK, SERRAT IB	
52	X-3373-172-1	BRACKET ASSY	
53	3-009-668-01	PLATE, CLOCK	
54	3-704-197-01	SCREW (IB LOCK)	
55	3-012-423-01	COVER (GX), MD (GX550:E,EA,GX552)	
55	3-012-423-11	COVER (GX), MD (GX550:AEP,IT)	
56	X-3373-173-1	HOLDER ASSY, CASSETTE (EXCEPT US)	
56	X-3374-205-1	HOLDER ASSY, CASSETTE (US)	
57	3-009-675-01	HOLDER	
58	3-009-669-01	TERMINAL (+), BATTERY	
59	A-3061-501-A	AUDIO BOARD, COMPLETE (EXCEPT US)	
59	A-3061-562-A	AUDIO BOARD, COMPLETE (US)	
60	3-009-670-01	TERMINAL (–), BATTERY	
61	3-928-465-01	DETENT, CASSETTE	
62	3-010-520-01	COVER, SW	
64	3-012-434-01	GUIDE (TU)	
65	1-694-248-11	CONDUCTIVE BOARD, CONNECTION	
* 67	3-012-429-01	HOLDER (LCD)	
68	A-3061-498-A	TUNER BOARD, COMPLETE	
69	3-355-424-61	SCREW, TAPPING	
70	3-009-667-01	SPRING, TENSION	
72	3-704-197-71	LOCK, SERRAT IB	
73	3-375-114-41	SCREW	
74	3-015-313-01	SHEET	
75	3-015-312-01	SHEET (HP)	
76	3-016-387-01	SHEET (LH)	
77	3-017-049-01	SHEET (RED)	
78	3-016-408-01	SHEET (BIAS)	
79	3-017-991-01	SHEET (GT)	
80	3-939-590-52	SCRREW (IB LOCK)	
81	3-016-712-01	SHEET (VOL)	
82	3-016-411-01	SHEET (LCD-GX)	
ND1	1-801-656-11	DISPLAY PANEL, LIQUID CRYSTAL	
S12	1-762-999-11	SWITCH, LEAF (FWD TUME/ATS)	
S901	1-762-793-21	SWITCH, LEAF (ATS)	

7-3. MECHANISM DECK SECTION (MF-WMGX654-125)



Ref. No.	Part No.	Description	Remark
101	3-011-277-01	COVER (B) (Y), MD	
102	3-704-413-31	SCREW (M1.4X7.2)	
103	X-3374-212-1	PINCH LEVER (N) ASSY	
104	3-007-434-01	PULLEY (REVERSE)	
105	3-007-428-01	WASHER (R)	
106	X-3372-851-1	FLYWHEEL (R) ASSY	
107	3-007-439-01	SLIDER (LOCK)	
108	3-386-694-11	WASHER	
109	X-3372-852-1	FLYWHEEL (N) ASSY	
110	3-007-430-01	BELT	
111	3-007-960-01	SPRING (EJECT) (Y), TORSION	
113	3-010-274-02	TABLE, REEL	
114	3-007-436-01	SPRING (TRIGGER), TORSION	
115	X-3372-848-1	CLUTCH ASSY (M)	
116	3-007-435-01	GEAR (FR)	
117	X-3372-853-1	LEVER (FRG) ASSY	
119	3-007-432-01	SHEET (R), REFLECTION	
120	3-007-427-01	SCREW (IB LOCK)	
121	X-3374-094-1	CHASSIS (S) ASSY (F)	
122	3-007-455-01	SPRING (R), TORSION	
123	3-007-458-01	SPRING (H/B), TENSION	
124	3-007-456-01	SPRING (N), TORSION	
125	3-007-454-01	SPRING (FR), TORSION	
126	3-007-457-01	SPRING (TEN), TENSION	
127	X-3374-213-1	PINCH LEVER (R) ASSY	
128	3-010-954-01	SPRING (BT), COMPRESSION	
129	3-918-943-01	WASHER, STOPPER	
130	3-366-017-01	BUSHING (CAPSTAN)	
131	3-007-429-01	WASHER (R), STOPPER	
132	3-932-724-21	WASHER	
* 133	3-010-272-01	BELT, RETAINER	
	HRPE5011-500-421-11	HEAD, MAGNETIC (REC/PB/ERASE)	
	M901	1-698-885-11	MOTOR	
	PM901	1-454-674-31	SOLENOID, PLUNGER	

SECTION 8
ELECTRICAL PARTS LIST

AUDIO

NOTE :
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
  All resistors are in ohms
  METAL : Metal-film resistor
  METAL OXIDE :Metal oxide-film resistor
  F : nonflammable
- Items marked " * "are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
  In each case, u : m , for example :
  uA... : m A... , uPA... : m PA ....
  uPB... : m PB... , uPC... : m PC....
  uPD... : m PD....
- CAPACITORS
  uF : m F
- COILS
  uH : m H
- Abbreviation
  JED : Tourist
  IT : Italian
  EA : Saudi Arabia

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description			Remark
	A-3061-501-A	AUDIO BOARD, COMPLETE (EXCEPT US)			
	A-3061-562-A	AUDIO BOARD, COMPLETE (US)			
		**********			
		< CAPACITOR >			
C101	1-162-965-11	CERAMIC CHIP 1500PF	10%	50V	
C102	1-162-963-11	CERAMIC CHIP 680PF	10%	50V	
C103	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C104	1-164-227-11	CERAMIC CHIP 0.022uF	10%	25V	
C105	1-164-677-11	CERAMIC CHIP 0.033uF	10%	16V	
C106	1-115-156-11	CERAMIC CHIP 1uF		10V	
C107	1-162-965-11	CERAMIC CHIP 0.0015uF	10%	50V	
C108	1-135-180-21	TANTALUM CHIP 3.3uF	20%	6.3V	
C109	1-164-174-11	CERAMIC CHIP 0.0082uF	10%	25V	
C110	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C111	1-107-823-11	CERAMIC CHIP 0.47uF	10%	16V	
C112	1-115-156-11	CERAMIC CHIP 1uF		10V	
C113	1-115-156-11	CERAMIC CHIP 1uF		10V	
C114	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C115	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C116	1-109-982-11	CERAMIC CHIP 1uF	10%	10V	
C117	1-115-156-11	CERAMIC CHIP 1uF		10V	
C118	1-115-156-11	CERAMIC CHIP 1uF		10V	
C119	1-115-156-11	CERAMIC CHIP 1uF		10V	
C201	1-162-965-11	CERAMIC CHIP 1500PF	10%	50V	
C202	1-162-963-11	CERAMIC CHIP 680PF	10%	50V	
C203	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C204	1-164-227-11	CERAMIC CHIP 0.022uF	10%	25V	
C205	1-164-677-11	CERAMIC CHIP 0.033uF	10%	16V	
C206	1-115-156-11	CERAMIC CHIP 1uF		10V	
C207	1-162-965-11	CERAMIC CHIP 0.0015uF	10%	50V	
C208	1-135-180-21	TANTALUM CHIP 3.3uF	20%	6.3V	
C209	1-164-174-11	CERAMIC CHIP 0.0082uF	10%	25V	
C210	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C211	1-107-823-11	CERAMIC CHIP 0.47uF	10%	16V	
C212	1-115-156-11	CERAMIC CHIP 1uF		10V	
C213	1-115-156-11	CERAMIC CHIP 1uF		10V	
C214	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C215	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C216	1-115-156-11	CERAMIC CHIP 1uF		10V	
C217	1-115-156-11	CERAMIC CHIP 1uF		10V	
C218	1-115-156-11	CERAMIC CHIP 1uF		10V	
C219	1-115-156-11	CERAMIC CHIP 1uF		10V	
C301	1-135-316-11	TANTAL. CHIP 22uF	20%	2.5V	
C302	1-115-467-11	CERAMIC CHIP 0.22uF	10%	10V	
C303	1-107-826-11	CERAMIC CHIP 0.1uF	10%	16V	
C304	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C305	1-135-316-11	TANTAL. CHIP 22uF	20%	2.5V	
C306	1-135-149-21	TANTALUM CHIP 2.2uF	20%	10V	
C307	1-164-227-11	CERAMIC CHIP 0.022uF	10%	25V	
C308	1-135-180-21	TANTALUM CHIP 3.3uF	20%	6.3V	
C309	1-115-156-11	CERAMIC CHIP 1uF		10V	
C310	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C311	1-165-128-11	CERAMIC CHIP 0.22uF		16V	
C312	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C313	1-135-201-11	TANTALUM CHIP 10uF	20%	4V	
C314	1-107-823-11	CERAMIC CHIP 0.47uF	10%	16V	
C315	1-115-156-11	CERAMIC CHIP 1uF		10V	
C316	1-115-156-11	CERAMIC CHIP 1uF		10V	
C317	1-115-467-11	CERAMIC CHIP 0.22uF	10%	10V	
C318	1-135-149-21	TANTALUM CHIP 2.2uF	20%	10V	
C319	1-107-688-11	TANTAL. CHIP 1.5uF	20%	10V	
C320	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C321	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C322	1-162-964-11	CERAMIC CHIP 0.001uF	10%	50V	
C501	1-135-201-11	TANTALUM CHIP 10uF	20%	4V	
C502	1-163-145-00	CERAMIC CHIP 0.0015uF	5% ,	50V	
C503	1-135-316-11	TANTAL. CHIP 22uF	20%	2.5V	
C504	1-107-817-11	TANTAL. CHIP 0.33uF	20%	16V	
C505	1-107-817-11	TANTAL. CHIP 0.33uF	20%	16V	
C506	1-164-173-11	CERAMIC CHIP 0.0039uF	10%	50V	
C507	1-164-173-11	CERAMIC CHIP 0.0039uF	10%	50V	
C508	1-162-966-11	CERAMIC CHIP 0.0022uF	10%	50V	
C509	1-135-201-11	TANTALUM CHIP 10uF	20%	4V	
C510	1-164-172-11	CERAMIC CHIP 0.0056uF	10%	25V	
C511	1-115-156-11	CERAMIC CHIP 1uF		10V	
C512	1-115-156-11	CERAMIC CHIP 1uF		10V	
C513	1-135-316-11	TANTAL. CHIP 22uF	20%	2.5V	
C514	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C515	1-135-180-21	TANTALUM CHIP 3.3uF	20%	6.3V	
C516	1-135-151-21	TANTALUM CHIP 4.7uF	20%	4V	
C517	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C518	1-135-316-11	TANTAL. CHIP 22uF	20%	2.5V	
C519	1-162-970-11	CERAMIC CHIP 0.01uF	10%	25V	
C520	1-135-218-11	TANTAL. CHIP 4.7uF	20%	2.5V	

Ref. No.	Part No.	Description			Remark
C521	1-115-156-11	CERAMIC CHIP	1uF		10V
C522	1-115-156-11	CERAMIC CHIP	1uF		10V
C523	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C524	1-164-217-11	CERAMIC CHIP	150PF	5%	50V
C525	1-162-925-11	CERAMIC CHIP	68PF	5%	50V
C528	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C601	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C602	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C603	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C604	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C605	1-164-156-11	CERAMIC CHIP	0.1uF		25V
C606	1-115-467-11	CERAMIC CHIP	0.22uF	10%	10V
C607	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C608	1-109-982-11	CERAMIC CHIP	1uF	10%	10V
C701	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C702	1-115-156-11	CERAMIC CHIP	1uF		10V
C703	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C704	1-115-156-11	CERAMIC CHIP	1uF		10V
		< CONNECTOR >			
CN501	1-766-619-11	10NNECTOR, FFC/FPC 8P			
CN701	1-779-079-11	CONNECTOR, BOARD TO BOARD			
		< DIODE >			
D501	8-719-421-71	DIODE MA132WA			
D701	8-719-404-49	DIODE MA111			
D702	8-719-049-09	DIODE 1SS367-T3SONY			
D703	8-719-423-35	DIODE MA8120-H			
D704	8-719-423-35	DIODE MA8120-H			
D705	8-719-423-35	DIODE MA8120-H			
		< FERRITE BEAD >			
FB703	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB704	1-414-385-11	INDUCTOR, FERRITE BEAD			
FB705	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB706	1-414-235-11	INDUCTOR, FERRITE BEAD			
FB707	1-414-235-11	INDUCTOR, FERRITE BEAD			
		< IC >			
IC301	8-759-359-76	IC TA2072AF			
IC501	8-759-062-63	IC TA8155FN			
IC601	8-759-356-46	IC MM1279XVBE			
IC701	8-759-460-25	IC S-8321AJMP-DNJ-T2			
		< JACK >			
J501	1-766-907-31	JACK 3P (MIC PLUG IN POWER)			
J701	1-778-930-21	JACK 7P (2 REMOTE)			
J801	1-779-080-11	JACK,DC (POLARITY UNIFIED TYPE) (DC IN 1.5V)			
		< JUMPER RESISTOR >			
JC801	1-216-296-00	METAL CHIP 0 5% 1/8W			
		< COIL >			
L101	1-412-011-31	INDUCTOR CHIP 27uH			
L201	1-412-011-31	INDUCTOR CHIP 27uH			

Ref. No.	Part No.	Description			Remark
L301	1-412-011-31	INDUCTOR CHIP	27uH		
L501	1-412-011-31	INDUCTOR CHIP	27uH		
L701	1-414-852-21	INDUCTOR	470uH		
L702	1-412-995-21	INDUCTOR	22uH		
		< PHOTO INTERRUPTER >			
PH701	8-719-988-15	PHTO REFLECTOR PR-11-C			
		< TRANSISTOR >			
Q302	8-729-422-39	TRANSISTOR XN4404			
Q303	8-729-426-36	TRANSISTOR XP1215-TXE			
Q304	8-729-230-72	TRANSISTOR 2SA1362YG			
Q306	8-729-426-36	TRANSISTOR XP1215-TXE			
Q307	8-729-420-44	TRANSISTOR UN5210			
Q308	8-729-422-51	TRANSISTOR UN5110-QRS			
Q501	8-729-141-75	TRANSISTOR 2SD596DV345			
Q502	8-729-030-53	TRANSISTOR MSD1819A-RT1			
Q503	8-729-429-44	TRANSISTOR XP1501			
Q504	8-729-230-72	TRANSISTOR 2SA1362YG			
Q505	8-729-420-44	TRANSISTOR UN5210			
Q506	8-729-425-46	TRANSISTOR XP4315-TXE			
Q507	8-729-141-75	TRANSISTOR 2SD596DV345			
Q508	8-729-028-23	TRANSISTOR 2SJ344(TE85L)			
Q509	8-729-028-27	TRANSISTOR 2SK2009(TE85L)			
Q510	8-729-028-27	TRANSISTOR 2SK2009(TE85L)			
Q511	8-729-426-36	TRANSISTOR XP1215-TXE			
Q512	8-729-426-51	TRANSISTOR XP1210-TXE			
Q601	8-729-403-42	TRANSISTOR XN1401			
Q602	8-729-402-84	TRANSISTOR XN4601			
Q701	8-729-421-26	TRANSISTOR UN5216			
Q702	8-729-230-72	TRANSISTOR 2SA1362YG			
Q704	8-729-425-46	TRANSISTOR XP4315-TXE			
		< RESISTOR >			
R101	1-216-812-11	METAL CHIP	180	5%	1/16W
R102	1-216-847-11	METAL CHIP	150K	5%	1/16W
R103	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R104	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R105	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R106	1-216-839-11	METAL CHIP	33K	5%	1/16W
R107	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R108	1-218-270-11	METAL GLAZE	1.1K	5%	1/16W
R109	1-216-834-11	METAL CHIP	12K	5%	1/16W
R110	1-216-852-11	METAL CHIP	390K	5%	1/16W
R111	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R112	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R113	1-216-809-11	METAL CHIP	100	5%	1/16W
R114	1-216-840-11	METAL CHIP	39K	5%	1/16W (EXCEPT US)
R114	1-216-845-11	METAL CHIP	100K	5%	1/16W (US)
R115	1-216-842-11	METAL CHIP	56K	5%	1/16W
R201	1-216-812-11	METAL CHIP	180	5%	1/16W
R202	1-216-847-11	METAL CHIP	150K	5%	1/16W
R203	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R204	1-216-824-11	METAL CHIP	1.8K	5%	1/16W

AUDIO TUNER

Ref. No.	Part No.	Description			Remark
R205	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R206	1-216-839-11	METAL CHIP	33K	5%	1/16W
R207	1-216-795-11	METAL GLAZE	6.8	5%	1/16W
R208	1-218-270-11	METAL GLAZE	1.1K	5%	1/16W
R209	1-216-834-11	METAL CHIP	12K	5%	1/16W
R210	1-216-852-11	METAL CHIP	390K	5%	1/16W
R211	1-216-822-11	METAL CHIP	1.2K	5%	1/16W
R212	1-216-824-11	METAL CHIP	1.8K	5%	1/16W
R213	1-216-809-11	METAL CHIP	100	5%	1/16W
R214	1-216-840-11	METAL CHIP	39K	5%	1/16W (EXCEPT US)
R214	1-216-845-11	METAL CHIP	100K	5%	1/16W (US)
R215	1-216-842-11	METAL CHIP	56K	5%	1/16W
R301	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R303	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R304	1-218-295-11	METAL GLAZE	43K	5%	1/16W
R305	1-216-821-11	METAL CHIP	1K	5%	1/16W
R307	1-216-847-11	METAL CHIP	150K	5%	1/16W
R309	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R310	1-216-793-11	METAL GLAZE	4.7	5%	1/16W
R501	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R502	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R503	1-216-817-11	METAL CHIP	470	5%	1/16W
R504	1-218-446-11	METAL CHIP	1	5%	1/16W
R505	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R506	1-216-832-11	METAL CHIP	8.2K	5%	1/16W
R507	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R508	1-216-837-11	METAL CHIP	22K	5%	1/16W
R509	1-216-840-11	METAL CHIP	39K	5%	1/16W
R510	1-216-843-11	METAL CHIP	68K	5%	1/16W
R511	1-216-854-11	METAL CHIP	560K	5%	1/16W
R512	1-216-833-11	METAL CHIP	10K	5%	1/16W
R516	1-216-845-11	METAL CHIP	100K	5%	1/16W
R517	1-216-821-11	METAL CHIP	1K	5%	1/16W
R518	1-216-821-11	METAL CHIP	1K	5%	1/16W
R519	1-216-845-11	METAL CHIP	100K	5%	1/16W
R520	1-216-845-11	METAL CHIP	100K	5%	1/16W
R521	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R522	1-216-857-11	METAL CHIP	1M	5%	1/16W
R604	1-216-817-11	METAL CHIP	470	5%	1/16W
R605	1-216-830-11	METAL CHIP	5.6K	5%	1/16W
R606	1-216-809-11	METAL CHIP	100	5%	1/16W
R607	1-216-837-11	METAL CHIP	22K	5%	1/16W
R611	1-216-821-11	METAL CHIP	1K	5%	1/16W
R612	1-216-833-11	METAL CHIP	10K	5%	1/16W
R701	1-216-849-11	METAL CHIP	220K	5%	1/16W
R702	1-216-849-11	METAL CHIP	220K	5%	1/16W
R703	1-216-845-11	METAL CHIP	100K	5%	1/16W
R704	1-216-821-11	METAL CHIP	1K	5%	1/16W
R705	1-216-821-11	METAL CHIP	1K	5%	1/16W
R706	1-216-843-11	METAL CHIP	68K	5%	1/16W
R707	1-216-843-11	METAL CHIP	68K	5%	1/16W
R708	1-216-849-11	METAL CHIP	220K	5%	1/16W
R709	1-216-857-11	METAL CHIP	1M	5%	1/16W
R710	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R711	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R712	1-216-849-11	METAL CHIP	220K	5%	1/16W
R713	1-216-821-11	METAL CHIP	1K	5%	1/16W
R714	1-216-821-11	METAL CHIP	1K	5%	1/16W
R715	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< COMPOSITION CIRCUIT BLOCK >			
RB301	1-233-872-21	RES, NETWORK (CHIP TYPE) 33K			
RB601	1-233-873-21	RES, NETWORK (CHIP TYPE) 220K			
RB602	1-233-576-11	RES, CHIP NETWORK 100			
		< VARIABLE RESISTOR >			
RV301	1-225-342-11	RES, VAR, CARBON 10K/10K (VOLUME)			
RV601	1-223-576-11	RES, ADJ, METAL GLAZE 2.2K (TAPE SPEED)			
		< SWITCH >			
S501	1-692-605-31	SWITCH, SLIDE (ISS)			
S701	1-572-922-11	SWITCH, SLIDE (◄— HOLD)			
S702	1-572-581-11	SWITCH, SLIDE (F/R SWITCH)			
S703	1-762-970-21	SWITCH, PUSH (1 KEY) (HOLDER SWITCH)			
		< TRANSFORMER >			
T501	1-423-744-11	TRANSFORMER, BIAS OSCILLATION			
		< THERMISTOR(POSITIVE) >			
THP601	1-810-794-11	THERMISTOR, POSITIVE			
**********					
	A-3061-498-A	TUNER BOARD, COMPLETE			
		**********			
	1-694-248-11	CONDUCTIVE BOARD, COMPLETE			
*	3-012-429-01	HOLDER (LCD)			
		< CAPACITOR >			
C1	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C2	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C3	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C4	1-115-156-11	CERAMIC CHIP	1uF		10V
C5	1-162-919-11	CERAMIC CHIP	22PF	5%	50V
C6	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C7	1-162-917-11	CERAMIC CHIP	15PF	5%	50V
C8	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C9	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C10	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C11	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C12	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C13	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C14	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C15	1-162-910-11	CERAMIC CHIP	5PF	0.25PF	50V
C16	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V
C17	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C18	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C19	1-162-905-11	CERAMIC CHIP	1PF	0.25PF	50V
C20	1-162-966-11	CERAMIC CHIP	0.0022uF	10%	50V
C21	1-164-676-11	CERAMIC CHIP	2200PF	5%	16V
C22	1-162-926-11	CERAMIC CHIP	82PF	5%	50V
C23	1-162-928-11	CERAMIC CHIP	120PF	5%	50V
C24	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C25	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V

Ref. No.	Part No.	Description			Remark
C26	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C27	1-162-935-11	CERAMIC CHIP	4PF	0.25PF	50V
C28	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C29	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C30	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C31	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C32	1-162-918-11	CERAMIC CHIP	18PF	5%	50V
C33	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C34	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C35	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C36	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C37	1-115-156-11	CERAMIC CHIP	1uF		10V
C38	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C39	1-135-151-21	TANTALUM CHIP	4.7uF	20%	4V
C40	1-115-156-11	CERAMIC CHIP	1uF		10V
C41	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C42	1-164-362-11	CERAMIC CHIP	470PF	5%	50V
C43	1-104-908-11	TANTAL. CHIP	47uF	20%	2.5V
C44	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C45	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C46	1-162-965-11	CERAMIC CHIP	0.0015uF	10%	50V
C47	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C48	1-115-156-11	CERAMIC CHIP	1uF		10V
C49	1-115-156-11	CERAMIC CHIP	1uF		10V
C50	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C52	1-163-139-00	CERAMIC CHIP	820PF	5%	50V
C53	1-107-826-11	CERAMIC CHIP	0.1uF	10%	16V
C54	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C55	1-104-912-11	TANTAL. CHIP	3.3uF	20%	6.3V
C56	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C57	1-164-345-11	CERAMIC CHIP	0.082uF	10%	25V
C58	1-115-156-11	CERAMIC CHIP	1uF		10V
C59	1-165-176-11	CERAMIC CHIP	0.047uF	10%	16V
C60	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C61	1-104-847-11	TANTAL. CHIP	22uF	20%	4V
C62	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C63	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C64	1-165-128-11	CERAMIC CHIP	0.22uF		16V
C65	1-162-968-11	CERAMIC CHIP	0.0047uF	10%	50V
C66	1-164-227-11	CERAMIC CHIP	0.022uF	10%	25V
C67	1-135-091-00	TANTALUM CHIP	1uF	20%	16V
C68	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C69	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C70	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C71	1-162-962-11	CERAMIC CHIP	470PF	10%	50V
C72	1-110-501-11	CERAMIC CHIP	0.33uF	10%	16V
C73	1-162-964-11	CERAMIC CHIP	0.001uF	10%	50V
C74	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C75	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C76	1-162-927-11	CERAMIC CHIP	100PF	5%	50V
C77	1-162-970-11	CERAMIC CHIP	0.01uF	10%	25V
C78	1-162-923-11	CERAMIC CHIP	47PF	5%	50V
C81	1-164-360-11	CERAMIC CHIP	0.1uF		16V
C85	1-164-315-11	CERAMIC CHIP	470PF	5%	50V
C86	1-164-315-11	CERAMIC CHIP	470PF	5%	50V

< FILTER >

CF1	1-767-313-11	FILTER, CERAMIC
CF2	1-767-313-11	FILTER, CERAMIC
CF3	1-767-480-11	FILTER, CERAMIC (AM)
CF4	1-767-357-11	FILTER, CERAMIC

< TRIMMER >

CT1	1-141-327-11	CAP, CHIP TYPE TRIMMER 10PF

< DIODE >

D1	8-719-053-30	DIODE MA2S357-(TX). SO
D2	8-719-053-30	DIODE MA2S357-(TX). SO
D3	8-719-055-61	DIODE HVR100-9TRU
D4	8-719-055-61	LED HVR100-9TRU (BATT)
D5	8-719-051-01	DIODE CL-170HR-CD-T
D6	8-719-420-51	DIODE MA729
D7	8-719-404-49	DIODE MA111
D8	8-719-420-87	DIODE MA8130
D9	8-719-049-09	DIODE 1SS367-T3SONY
D10	8-719-420-87	DIODE MA8130
D11	8-719-420-87	DIODE MA8130

< IC >

IC1	8-759-475-78	IC TC9326F-006
IC2	8-759-234-31	IC TD6134AF
IC3	8-759-362-23	IC TA7371AF-EL
IC4	8-759-524-71	IC AK93C45-SU (US)
IC4	8-759-524-73	IC AK93C45-SE (E, JED)
IC4	8-759-541-47	IC AK93C45-SGEN (AEP, IT, EA)
IC5	8-759-457-70	IC XC62RP1602MR
IC6	8-759-387-31	IC TC75S55F(TE85R)
IC7	8-759-362-25	IC TA-2022AFN-EL

< JUMPER RESISTOR >

JC1	1-216-864-11	METAL CHIP	0	5%	1/16W

< COIL >

L2	1-416-180-11	COIL (WITH CORE) (FM OSC)
L3	1-416-181-11	COIL (WITH CORE) (FM MIX)
L4	1-501-812-11	ANTENNA, FERRITE-ROD (MW)
L5	1-412-010-41	INDUCTOR CHIP 22uH
L6	1-412-010-41	INDUCTOR CHIP 22uH
L7	1-412-010-41	INDUCTOR CHIP 22uH
L8	1-412-010-41	INDUCTOR CHIP 22uH
L9	1-412-010-41	INDUCTOR CHIP 22uH
L10	1-412-010-41	INDUCTOR CHIP 22uH

< LIQUID CRYSTAL DISPLAY >

ND1	1-801-656-11	DISPLAY PANEL, LIQUID CRYSTAL

< TRANSISTOR >

Q1	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO
Q2	8-729-028-69	TRANSISTOR 2SC4655-BC(TX)
Q3	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO
Q4	8-729-037-89	TRANSISTOR 2SC4627J-C(TX).SO
Q5	8-729-823-86	TRANSISTOR 2SA1745
Q6	8-729-028-69	TRANSISTOR 2SC4655-BC(TX)
Q7	8-729-428-95	TRANSISTOR UN9116-QRS-(TXE)
Q8	8-729-037-63	TRANSISTOR UN9115J-(TX).SO
Q9	8-729-800-71	TRANSISTOR 2SB815B7-TB

TUNER

Ref. No.	Part No.	Description			Remark
Q10	8-729-800-71	TRANSISTOR	2SB815B7-TB		
Q11	8-729-420-68	TRANSISTOR	2SD1328-R-TX		
Q12	8-729-800-37	TRANSISTOR	2SD1048-X7		
Q13	8-729-028-69	TRANSISTOR	2SC4655-BC(TX)		
Q14	8-729-037-71	TRANSISTOR	UN9210J-(TX).SO		
Q15	8-729-037-63	TRANSISTOR	UN9115J-(TX).SO		
Q16	8-729-028-69	TRANSISTOR	2SC4655-BC(TX)		
Q17	8-729-028-69	TRANSISTOR	2SC4655-BC(TX)		
Q18	8-729-807-87	TRANSISTOR	2SB1295-UL6		
Q21	8-729-037-63	TRANSISTOR	UN9115J-(TX).SO		
		< RESISTOR >			
R1	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R2	1-216-853-11	METAL CHIP	470K	5%	1/16W
R3	1-216-853-11	METAL CHIP	470K	5%	1/16W
R4	1-216-821-11	METAL CHIP	1K	5%	1/16W
R5	1-216-813-11	METAL CHIP	220	5%	1/16W
R6	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R7	1-218-870-11	METAL GLAZE	9.1K	0.50%	1/16W
R8	1-218-836-11	METAL GLAZE	360	0.50%	1/16W
R9	1-216-833-11	METAL CHIP	10K	5%	1/16W
R10	1-216-813-11	METAL CHIP	220	5%	1/16W
R11	1-216-853-11	METAL CHIP	470K	5%	1/16W
R12	1-216-853-11	METAL CHIP	470K	5%	1/16W
R13	1-216-809-11	METAL CHIP	100	5%	1/16W
R14	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R15	1-216-845-11	METAL CHIP	100K	5%	1/16W
R16	1-218-907-11	METAL GLAZE	330K	0.50%	1/16W
R17	1-216-833-11	METAL CHIP	10K	5%	1/16W
R18	1-216-821-11	METAL CHIP	1K	5%	1/16W
R19	1-216-821-11	METAL CHIP	1K	5%	1/16W
R20	1-216-833-11	METAL CHIP	10K	5%	1/16W
R21	1-216-833-11	METAL CHIP	10K	5%	1/16W
R22	1-216-815-11	METAL CHIP	330	5%	1/16W
R23	1-216-845-11	METAL CHIP	100K	5%	1/16W
R24	1-216-853-11	METAL CHIP	470K	5%	1/16W
R25	1-218-857-11	METAL GLAZE	2.7K	0.50%	1/16W
R26	1-218-903-11	METAL GLAZE	220K	0.50%	1/16W
R27	1-216-825-11	METAL CHIP	2.2K	5%	1/16W
R28	1-216-815-11	METAL CHIP	330	5%	1/16W
R29	1-218-845-11	METAL GLAZE	820	0.50%	1/16W
R30	1-218-847-11	METAL GLAZE	1K	0.50%	1/16W
R31	1-218-849-11	METAL GLAZE	1.2K	0.50%	1/16W
R32	1-218-851-11	METAL GLAZE	1.5K	0.50%	1/16W
R33	1-218-863-11	METAL GLAZE	4.7K	0.50%	1/16W
R34	1-218-859-11	METAL GLAZE	3.3K	0.50%	1/16W
R35	1-218-864-11	METAL GLAZE	5.1K	0.50%	1/16W
R36	1-218-868-11	METAL GLAZE	7.5K	0.50%	1/16W
R37	1-218-871-11	METAL GLAZE	10K	0.50%	1/16W
R38	1-218-879-11	METAL GLAZE	22K	0.50%	1/16W
R39	1-216-823-11	METAL CHIP	1.5K	5%	1/16W
R40	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R41	1-216-845-11	METAL CHIP	100K	5%	1/16W
R42	1-216-820-11	METAL CHIP	820	5%	1/16W
R43	1-216-833-11	METAL CHIP	10K	5%	1/16W
R44	1-216-819-11	METAL CHIP	680	5%	1/16W
R45	1-216-825-11	METAL CHIP	2.2K	5%	1/16W

Ref. No.	Part No.	Description			Remark
R46	1-216-799-11	METAL CHIP	15	5%	1/16W
R47	1-216-817-11	METAL CHIP	470	5%	1/16W
R48	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R49	1-216-845-11	METAL CHIP	100K	5%	1/16W
R50	1-216-833-11	METAL CHIP	10K	5%	1/16W
R51	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R52	1-216-839-11	METAL CHIP	33K	5%	1/16W
R53	1-216-817-11	METAL CHIP	470	5%	1/16W
R54	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R55	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R56	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R57	1-216-826-11	METAL CHIP	2.7K	5%	1/16W
R58	1-216-845-11	METAL CHIP	100K	5%	1/16W
R59	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R60	1-216-831-11	METAL CHIP	6.8K	5%	1/16W
R61	1-216-833-11	METAL CHIP	10K	5%	1/16W
R62	1-216-841-11	METAL CHIP	47K	5%	1/16W
R63	1-216-833-11	METAL CHIP	10K	5%	1/16W
R64	1-216-829-11	METAL CHIP	4.7K	5%	1/16W
R65	1-216-849-11	METAL CHIP	220K	5%	1/16W
R66	1-216-849-11	METAL CHIP	220K	5%	1/16W
R67	1-216-853-11	METAL CHIP	470K	5%	1/16W
R68	1-216-857-11	METAL CHIP	1M	5%	1/16W
R69	1-216-853-11	METAL CHIP	470K	5%	1/16W
R70	1-216-849-11	METAL CHIP	220K	5%	1/16W
R71	1-216-821-11	METAL CHIP	1K	5%	1/16W
R72	1-216-845-11	METAL CHIP	100K	5%	1/16W
R73	1-216-849-11	METAL CHIP	220K	5%	1/16W
R75	1-216-845-11	METAL CHIP	100K	5%	1/16W
R76	1-216-835-11	METAL CHIP	15K	5%	1/16W
R77	1-216-819-11	METAL CHIP	680	5%	1/16W
R78	1-216-821-11	METAL CHIP	1K	5%	1/16W
R79	1-216-821-11	METAL CHIP	1K	5%	1/16W
R80	1-216-821-11	METAL CHIP	1K	5%	1/16W
		< VARIABLE RESISTOR >			
RV1	1-223-578-11	RES, ADJ, METAL GLAZE 22K (VCO)			
		< SWITCH >			
S1	1-692-453-11	SWITCH, KEY BOARD (■RADIO OFF)			
S2	1-692-453-11	SWITCH, KEY BOARD (◁▷)			
S3	1-692-453-11	SWITCH, KEY BOARD (FF,AMS/PRESET +)			
S4	1-692-453-11	SWITCH, KEY BOARD (REW,AMS/PRESET −)			
S5	1-692-453-11	SWITCH, KEY BOARD (RADIO ON BAND)			
S6	1-572-467-21	SWITCH, PUSH (1 KEY) (REC ●)			
S7	1-771-053-21	SWITCH, KEY BOARD (MENU)			
S8	1-771-053-21	SWITCH, KEY BOARD (SET)			
S9	1-692-453-11	SWITCH, KEY BOARD (TUNING +)			
S10	1-692-453-11	SWITCH, KEY BOARD (TUNING −)			
S11	1-692-453-11	SWITCH, KEY BOARD (ENTER)			
		< TRANSFORMER >			
T1	1-416-182-11	COIL (AM OSC)			
T2	1-416-183-11	COIL (AM MIX)			
T3	1-423-745-11	TRANSFORMER, DC-DC CONVERTER			

Ref. No.	Part No.	Description	Remark
		< VIBRATOR >	
X1	1-577-262-11	VIBRATOR, CRYSTAL (75kHz)	
**********			
		MISCELLANEOUS	
		**********	
65	1-694-248-11	CONDUCTIVE BOARD, CONNECTION	
HRPE501	1-500-421-11	HEAD, MAGNETIC (REC/PB/ERASE)	
ND1	1-801-656-11	DISPLAY PANEL, LIQUID CRYSTAL	
M901	1-698-885-11	MOTOR	
PM901	1-454-674-31	SOLENOID, PLUNGER	
S12	1-762-999-11	SWITCH, LEAF (FWD TUME/ATS)	
S901	1-762-793-21	SWITCH, LEAF (ATS)	
**********			
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-505-537-11	HEADPHONE(WITH REMOTE CONTROL)	(GX552 : EXCEPT US)
	1-505-785-11	HEADPHONE, REMOCOM (MDR-WMG552)	(US)
⚠	1-528-465-11	BATTERY CHARGER (BC-820T) (GX552:JED)	
	1-542-116-11	MICROPHONE	
⚠	1-569-007-11	ADAPTOR, CONVERSION 2P (GX552:JED)	
	2-389-320-01	CUSHION, LOCK PLATE	
	3-858-911-11	MANUAL, INSTRUCTION (ENGLISH,ITALIAN)	(GX550:AEP,IT,EA/GX552:EA)
	3-858-911-21	MANUAL, INSTRUCTION (FRENCH, GERMAN)	(GX550:AEP,IT)
	3-858-911-31	MANUAL, INSTRUCTION (SPANISH,DUTCH)	(GX550:AEP,IT)
	3-858-911-41	MANUAL, INSTRUCTION (SWEDISH,PORTUGUESE)	(GX550:AEP,IT)
	3-858-911-51	MANUAL, INSTRUCTION (ENGLISH,SPANISH)	(GX550:E/GX552:E,JED)
	3-858-911-61	MANUAL, INSTRUCTION (CHINESE,KOREAN)	(GX550:E/GX552:E,JED)
	3-920-201-01	CLIP (GX552)	
	3-931-774-01	CASE, CARRYING	
	8-953-187-90	HEADPHONE MDR-ED136 (GX550)	
	X-3336-715-1	STAND ASSY, MICROPHONE	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

WM-GX550/GX552

SONY

SERVICE MANUAL

1998. 03

US Model
WM-GX552
AEP Model
WM-GX550
E Model
WM-GX550/GX552
Tourist Model
WM-GX552

SUPPLEMENT - 1

File this Supplement with the Service Manual.

Subject :
- **CHANGE OF BOARDS**
- **WM-GX550 (FRENCH) MODEL HAS BEEN ADDED**

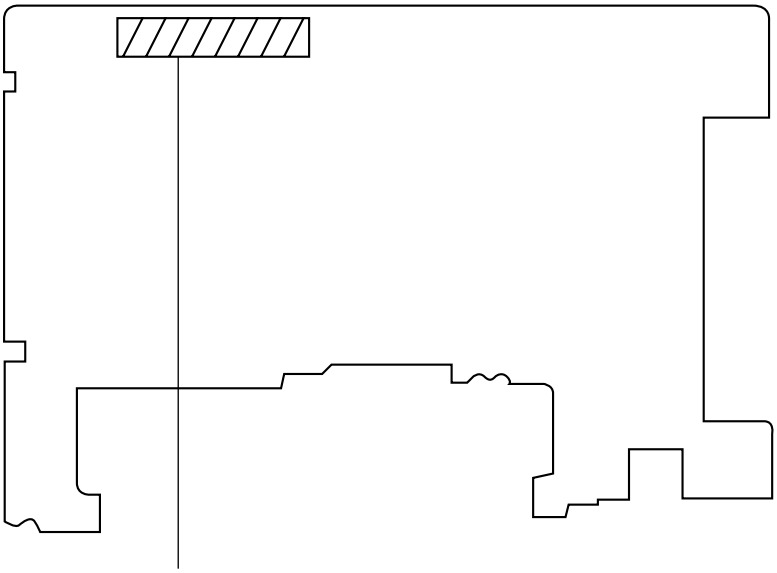
(ECN : WM800320)

● CHANGE OF BOARDS

The tuner board and audio board have been changed.
Printed wiring boards and schematic diagram of new type, and changed parts list are described in this Supplement-1.
Refer to original service manual (9-923-180-12) previously issued for the other information.

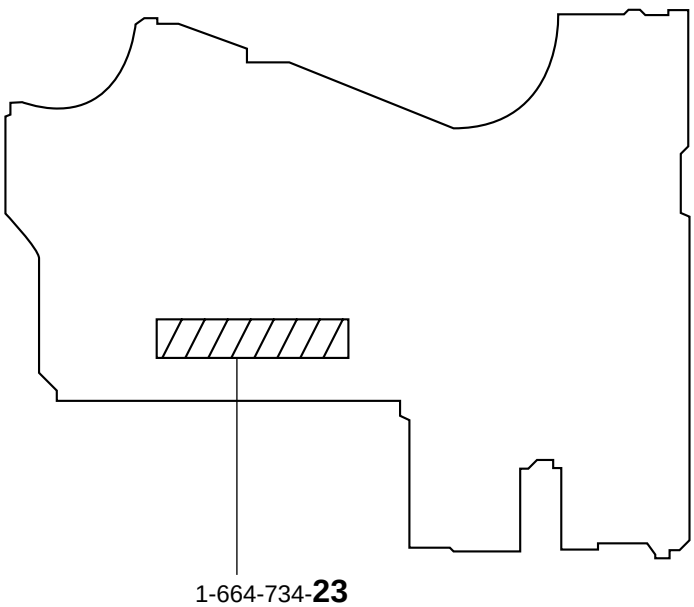
NEW TYPE IDENTIFICATION

– TUNER BOARD (Conductor side) **–**



1-664-733-**15**

– AUDIO BOARD (Conductor side) **–**



1-664-734-**23**

● **CHANGED PARTS LIST**

AUDIO (Service Manual See page 37 to 38)

Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
R151		————————	1-220-370-11	METAL CHIP 62 5% 1/16W (FRENCH MODEL) 1-216-864-11 METAL CHIP 0 5% 1/16W (EXCEPT FRENCH MODEL)	Added
R251		————————	1-220-370-11	METAL CHIP 62 5% 1/16W (FRENCH MODEL) 1-216-864-11 METAL CHIP 0 5% 1/16W (EXCEPT FRENCH MODEL)	Added

TUNER (Service Manual See page 39 to 40)

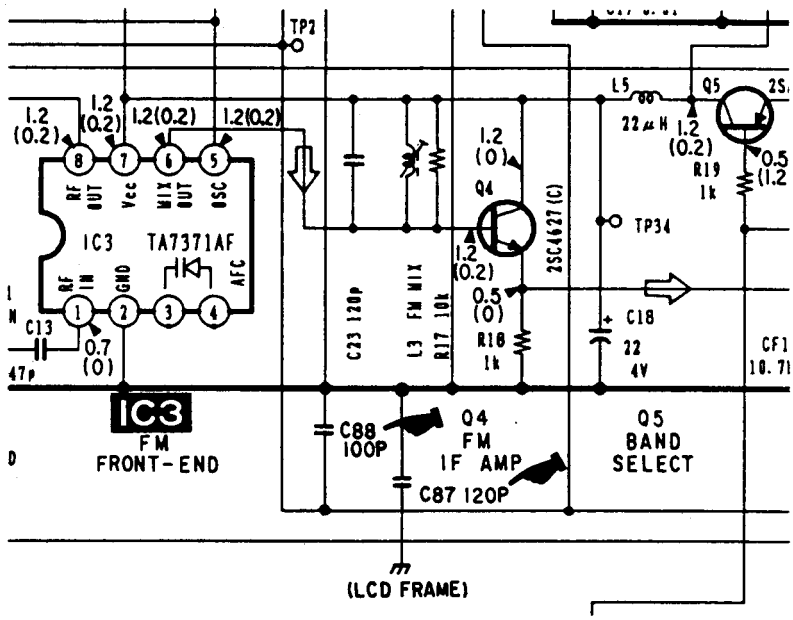
Ref. No.	Former Type		New Type		Remark
	Part No.	Description	Part No.	Description	
C64	1-165-128-11	CERAMIC CHIP 0.22uF 16V	1-115-156-11	CERAMIC CHIP 1uF 10V	Changed
C79		————————	1-162-915-11	CERAMIC CHIP 10PF 5% 50V	Added
C87		————————	1-162-928-11	CERAMIC CHIP 120PF 5% 50V	Added
C88		————————	1-162-927-11	CERAMIC CHIP 100PF 5% 50V	Added

SCHEMATIC DIAGRAM (TUNER SECTION)

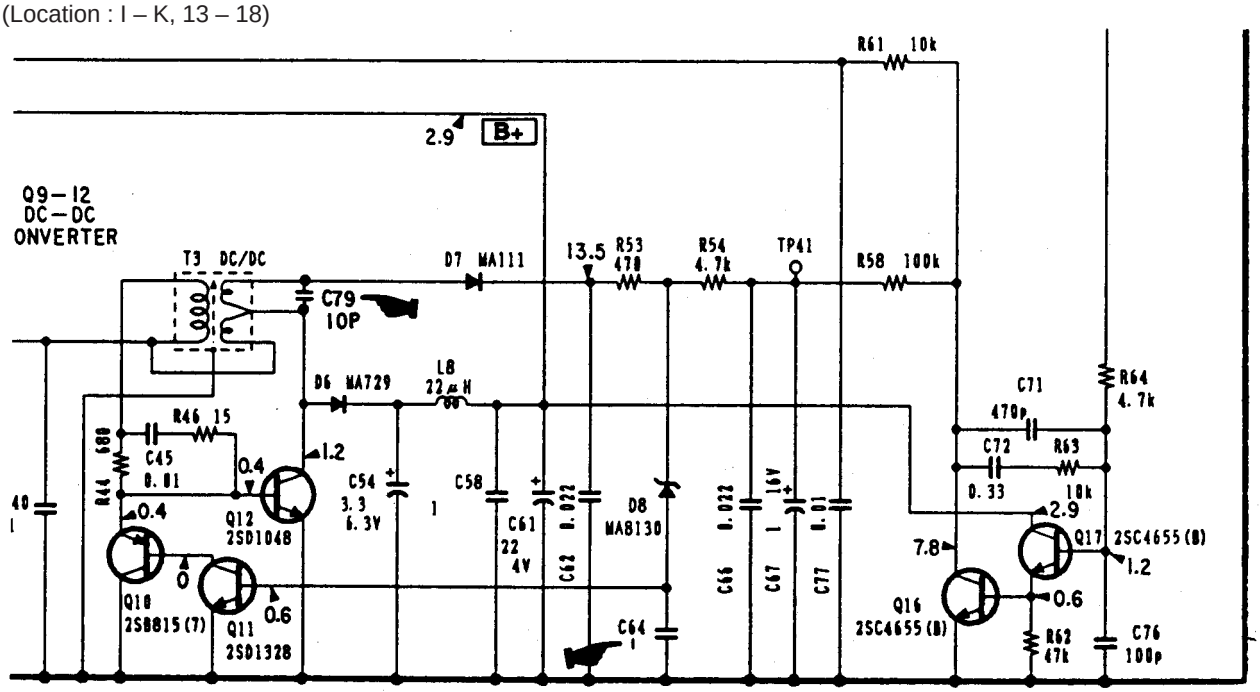
☛: Added or changed portion

(Service Manual See page 22 to 23)

(Location : D – F, 8 – 11)

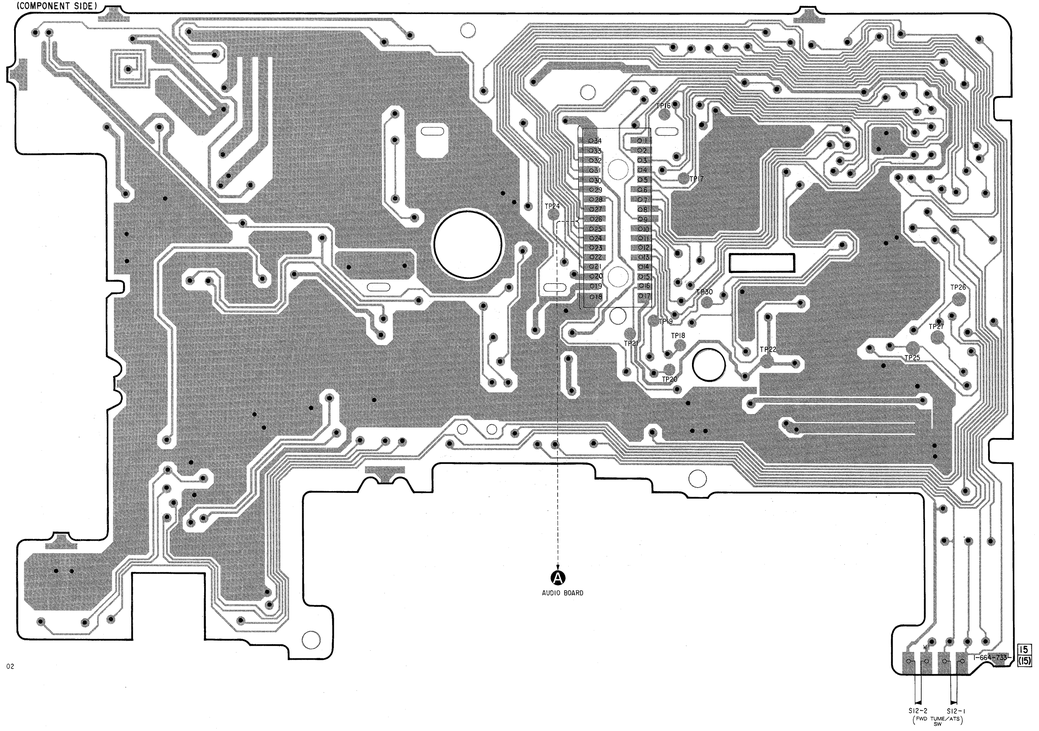


(Location : I – K, 13 – 18)

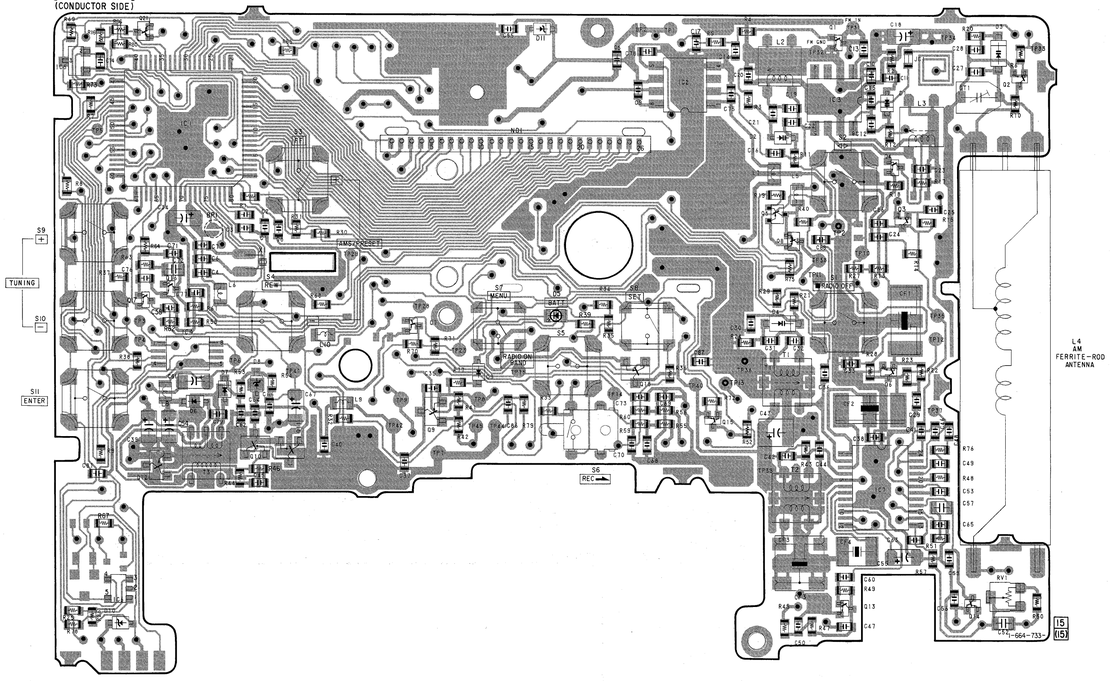


PRINTED WIRING BOARDS (TUNER SECTION)

【TUNER BOARD】
(COMPONENT SIDE)



【TUNER BOARD】
(CONDUCTOR SIDE)



● **SEMICONDUCTOR LOCATION**

Ref. No.	Location
D1	B-20
D2	B-19
D3	A-22
D4	D-19
D5	D-17
D6	E-13
D7	E-14
D8	E-14
D9	E-16
D10	G-13
D11	A-17
IC1	B-13
IC2	B-18
IC3	B-20
IC4	E-13
IC5	B-12
IC6	G-13
IC7	F-20
Q1	A-20
Q2	B-22
Q3	B-21
Q4	B-20
Q5	C-19
Q6	E-20
Q7	D-16
Q8	B-20
Q9	E-16
Q10	F-14
Q11	F-14
Q12	F-13
Q13	G-20
Q14	G-21
Q15	E-20
Q16	D-13
Q17	D-13
Q18	E-18
Q21	A-13

Note:
- ○——: parts extracted from the component side.
- ●: Through hole.
- ▨: Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

Caution:	
Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

PRINTED WIRING BOARDS (AUDIO SECTION)

- **SEMICONDUCTOR LOCATION**

Ref. No.	Location
D501	D-17
D701	H-4
D702	E-9
D703	G-3
D704	G-3
D705	H-3
IC301	E-16
IC501	F-4
IC601	F-13
IC701	E-9
PH701	F-8
Q302	D-3
Q303	F-15
Q304	E-15
Q306	D-3
Q307	D-8
Q308	D-8
Q501	E-15
Q502	E-3
Q503	D-7
Q504	D-7
Q505	E-3
Q506	F-5
Q507	D-15
Q508	D-7
Q509	C-6
Q510	C-7
Q511	D-6
Q512	E-3
Q601	F-9
Q602	F-9
Q701	H-5
Q702	H-4
Q704	F-7

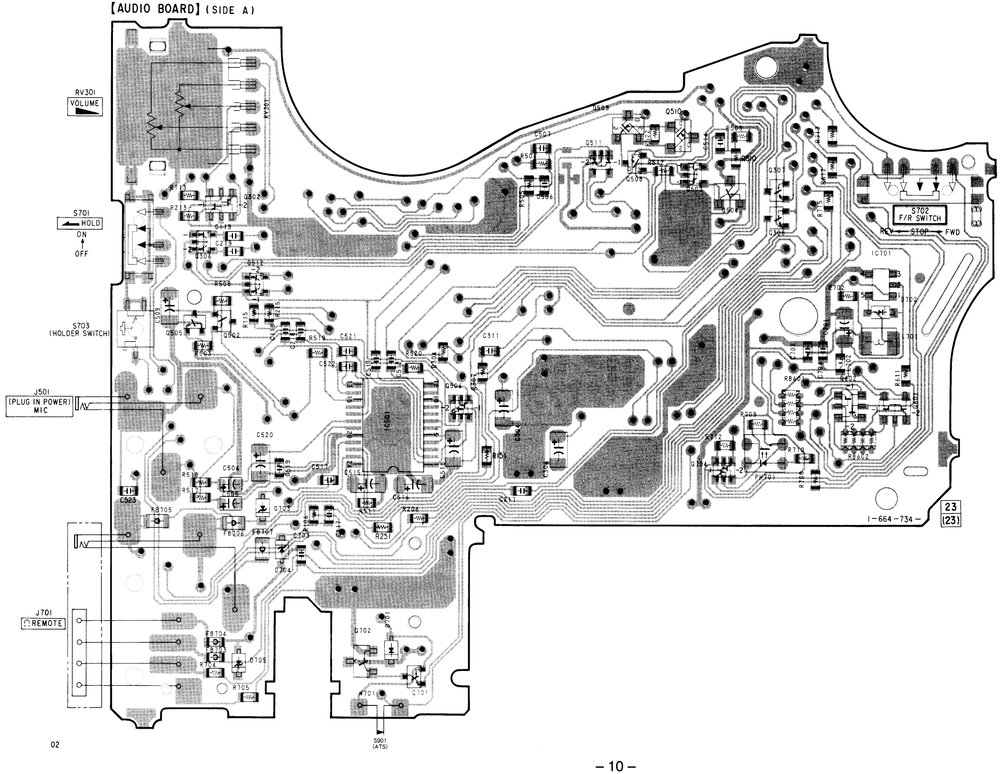
Note:
- ○——○ : parts extracted from the component side.
- ○ ● : Through hole.
- ▨ : Pattern from the side which enables seeing.

(The other layers' patterns are not indicated.)

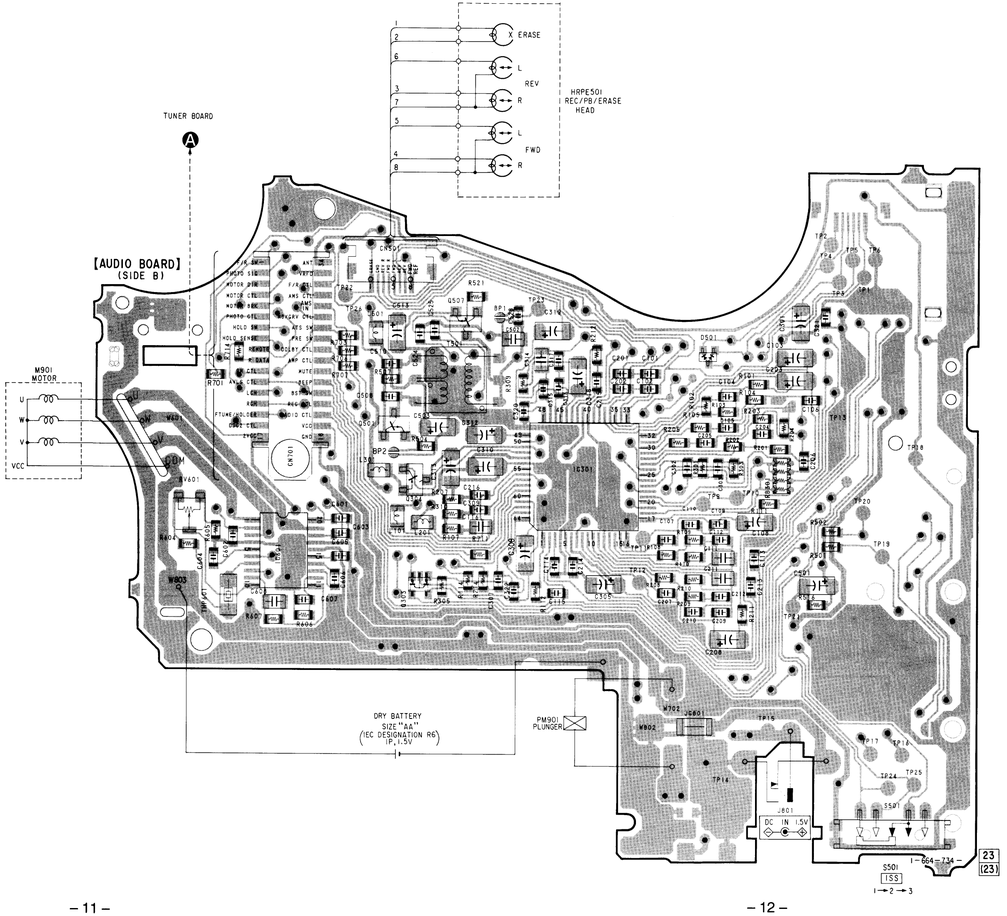
Caution:

Pattern face side: (Conductor Side)	Parts on the pattern face side seen from the pattern face are indicated.
Parts face side: (Component Side)	Parts on the parts face side seen from the parts face are indicated.

【AUDIO BOARD】(SIDE A)



【AUDIO BOARD】(SIDE B)

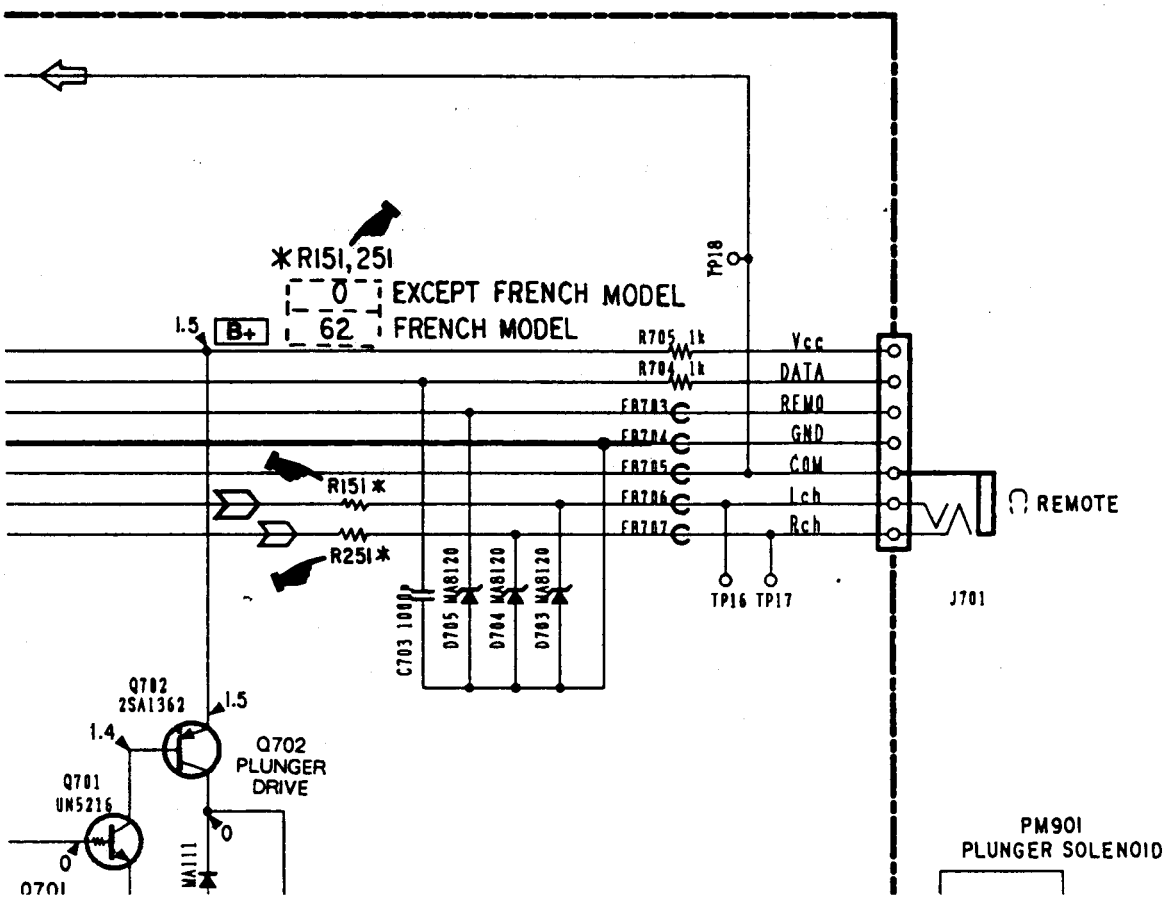


SCHEMATIC DIAGRAM (AUDIO SECTION)

☛: Added portion

(Service Manual See page 28)

(Location : B – F, 19 – 22)



● WM-GX550 (FRENCH) MODEL HAS BEEN ADDED

The WM-GX550 (French) model is approximately the same as the WM-GX550 (AEP) model.
Only difference between WM-GX550 (AEP) model and WM-GX550 (French) model are listed.
For other informations, please refer to the previously issued service manual (9-923-180-12).

● DIFFERENCE PARTS LIST

EXPLODED VIEWS (Service Manual See page 34)

Ref.No.	WM-GX550 (AEP Model)		WM-GX550 (French Model)	
	Part No.	Description	Part No.	Description
59	A-3061-501-A	AUDIO BOARD, COMPLETE	A-3061-784-A	AUDIO BOARD, COMPLETE

ELECTRICAL PARTS LIST

AUDIO (Service Manual See page 36)

Ref.No.	WM-GX550 (AEP Model)					WM-GX550 (French Model)				
	Part No.	Description				Part No.	Description			
	A-3061-501-A	AUDIO BOARD, COMPLETE				A-3061-784-A	AUDIO BOARD, COMPLETE			
R151	1-216-864-11	METAL CHIP	0	5%	1/16W	1-220-370-11	METAL CHIP	62	5%	1/16W
R251	1-216-864-11	METAL CHIP	0	5%	1/16W	1-220-370-11	METAL CHIP	62	5%	1/16W

ACCESSORIES & PACKING MATERIALS (Service Manual See page 41)

Ref.No.	WM-GX550 (AEP Model)		WM-GX550 (French Model)	
	Part No.	Description	Part No.	Description
	3-858-911-11	MANUAL, INSTRUCTION (ENGLISH, ITALIAN)	3-858-911-21	MANUAL, INSTRUCTION (FRENCH, GERMAN)
	3-858-911-21	MANUAL, INSTRUCTION (FRENCH, GERMAN)		
	3-858-911-31	MANUAL, INSTRUCTION (SPANISH, DUTCH)		
	3-858-911-41	MANUAL, INSTRUCTION (SWEDISH, PORTUGUESE)		

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REVISION HISTORY

Clicking the version allows you to jump to the revised page.
Also, clicking the version at the upper right on the revised page allows you to jump to the next revised page.

Ver.	Date	Description of Revision
1.1	2001.11	Change of IC4, PDF registration. (SPM-01041/SPM-01046)
1.0	1998.03	SUPPLEMENT-1
	1997.09	New